

UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF MASSACHUSETTS

JOHN HANCOCK LIFE INSURANCE
COMPANY, JOHN HANCOCK
VARIABLE LIFE INSURANCE
COMPANY and MANULIFE
INSURANCE COMPANY,

Plaintiffs,

v.

ABBOTT LABORATORIES,

Defendant.

CIVIL ACTION NO. 05-11150-DPW

**ABBOTT'S CORRECTED DEPOSITION DESIGNATIONS AND
COUNTER DESIGNATIONS FOR STEPHEN BLEWITT**

Defendant Abbott Laboratories ("Abbott") respectfully submits the attached deposition designations and counter-designations for the July 16, 2004, November 17, 2006 and May 16, 2007 depositions of Stephen Blewitt, Senior Managing Director, John Hancock

Dated: February 22, 2008

Respectfully submitted,

ABBOTT LABORATORIES

By: /s/ Eric J. Lorenzini
Eric J. Lorenzini

Jeffrey I. Weinberger (*pro hac vice*)
Gregory D. Phillips (*pro hac vice*)
Eric J. Lorenzini (*pro hac vice*)
Ozge Guzelsu (*pro hac vice*)
MUNGER, TOLLES & OLSON LLP
355 South Grand Avenue, Thirty-Fifth
Floor
Los Angeles, CA 90071-1560
Tele: (213) 683-9100

and

Peter E. Gelhaar (BBO#188310)
Michael S. D'Orsi (BBO #566960)
DONNELLY, CONROY &
GELHAAR LLP
1 Beacon St., 33rd Floor
Boston, Massachusetts 02108
(617) 720-2880
peg@dcglaw.com
msd@dcglaw.com

Counsel for Abbott Laboratories

CERTIFICATE OF SERVICE

I hereby certify that this document(s) filed through the ECF system will be sent electronically to the registered participants as identified on the Notice of Electronic Filing (NEF) and paper copies will be sent to those indicated as non registered participants on February 22, 2008.

Date: February 22, 2008.

/s/ Ozge Guzelsu

Stephen Blewitt Deposition Designations

Depo Date	Witness	Hancock Designation	Abbott Counter Designation	Abbott Designation	Deposition Exhibit	Plaintiff Exhibit	Defendant Exhibit
07/16/04	Blewitt, Stephen			6:2-6:10			
07/16/04	Blewitt, Stephen			13:21-14:5			
07/16/04	Blewitt, Stephen			20:5-21:9			
07/16/04	Blewitt, Stephen			21:20-22:9	30		LS
07/16/04	Blewitt, Stephen			22:20-23:8			
07/16/04	Blewitt, Stephen			27:14-29:17	32		LT
07/16/04	Blewitt, Stephen			145:17-146:15			
07/16/04	Blewitt, Stephen			191:16-194:12	36		LU
07/16/04	Blewitt, Stephen			195:6-197:13			
11/17/06	Blewitt, Stephen			11:13-11:14			
11/17/06	Blewitt, Stephen			11:18-11:19			
11/17/06	Blewitt, Stephen			12:1-12:2			
11/17/06	Blewitt, Stephen			12:16-13:1			
11/17/06	Blewitt, Stephen			18:19-20:16			
11/17/06	Blewitt, Stephen			21:22-22:12			

Depo Date	Witness	Hancock Designation	Abbott Counter Designation	Abbott Designation	Deposition Exhibit	Plaintiff Exhibit	Defendant Exhibit
11/17/06	Blewitt, Stephen			22:19-24:4	1; 2; 3; 4; 5; 6; 7; 8; 9		514; 515; 516; 519; E; 522; 523; 524; 525
11/17/06	Blewitt, Stephen			24:11-27:23			
11/17/06	Blewitt, Stephen			28:4-30:7			
11/17/06	Blewitt, Stephen			31:4-33:6			
11/17/06	Blewitt, Stephen			34:16-35:5			
11/17/06	Blewitt, Stephen			35:16-39:3			
11/17/06	Blewitt, Stephen			40:10-41:17			
11/17/06	Blewitt, Stephen			42:4-44:24			
11/17/06	Blewitt, Stephen			47:10-49:8			
11/17/06	Blewitt, Stephen			50:1-51:4			
11/17/06	Blewitt, Stephen			52:21-53:15			
11/17/06	Blewitt, Stephen			54:13-55:10			
11/17/06	Blewitt, Stephen			55:21-55:22	10		549
11/17/06	Blewitt, Stephen			56:2-56:7			
11/17/06	Blewitt, Stephen			57:3-57:18			
11/17/06	Blewitt, Stephen			59:13-61:17			
11/17/06	Blewitt, Stephen			63:13-63:21			

Depo Date	Witness	Hancock Designation	Abbott Counter Designation	Abbott Designation	Deposition Exhibit	Plaintiff Exhibit	Defendant Exhibit
11/17/06	Blewitt, Stephen			64:1-64:2	12		794
11/17/06	Blewitt, Stephen			64:12-67:5			
11/17/06	Blewitt, Stephen			67:16-72:20	13		817
11/17/06	Blewitt, Stephen			73:16-74:7			
11/17/06	Blewitt, Stephen			75:9-76:1	14		LV
11/17/06	Blewitt, Stephen			76:14-77:18			
11/17/06	Blewitt, Stephen			78:1-78:22			
11/17/06	Blewitt, Stephen			82:18-83:12	15		569
11/17/06	Blewitt, Stephen			84:15-85:4			
11/17/06	Blewitt, Stephen			85:14-86:16			
11/17/06	Blewitt, Stephen			89:24-90:19			
11/17/06	Blewitt, Stephen			92:5-92:11			
11/17/06	Blewitt, Stephen			92:16-93:24			
11/17/06	Blewitt, Stephen			99:16-99:20			
11/17/06	Blewitt, Stephen			100:8-101:6			
11/17/06	Blewitt, Stephen			111:14-112:8			
11/17/06	Blewitt, Stephen			118:11-118:23			
11/17/06	Blewitt, Stephen			125:24-126:11			

Depo Date	Witness	Hancock Designation	Abbott Counter Designation	Abbott Designation	Deposition Exhibit	Plaintiff Exhibit	Defendant Exhibit
11/17/06	Blewitt, Stephen			127:19-130:21			
11/17/06	Blewitt, Stephen			134:15-135:4			
11/17/06	Blewitt, Stephen			136:2-136:8			
11/17/06	Blewitt, Stephen			146:22-147:10			
11/17/06	Blewitt, Stephen			147:16-148:9			
11/17/06	Blewitt, Stephen			149:14-151:11			
11/17/06	Blewitt, Stephen			152:23-153:16	17		818
11/17/06	Blewitt, Stephen			157:20-160:2			
11/17/06	Blewitt, Stephen			160:17-161:12	18		819
11/17/06	Blewitt, Stephen			162:20-163:12			
11/17/06	Blewitt, Stephen			164:10-165:5			
11/17/06	Blewitt, Stephen			166:4-167:1	19		562
11/17/06	Blewitt, Stephen			167:20-168:18			
11/17/06	Blewitt, Stephen			169:8-169:21			
11/17/06	Blewitt, Stephen			170:2-170:3	20		820
11/17/06	Blewitt, Stephen			170:17-170:20			
11/17/06	Blewitt, Stephen			171:11-173:4			
11/17/06	Blewitt, Stephen			179:2-182:1			


Depo Date	Witness	Hancock Designation	Abbott Counter Designation	Abbott Designation	Deposition Exhibit	Plaintiff Exhibit	Defendant Exhibit
11/17/06	Blewitt, Stephen			184:13-189:12			
11/17/06	Blewitt, Stephen			205:1-205:17			
11/17/06	Blewitt, Stephen			219:21-221:14	21		BD
11/17/06	Blewitt, Stephen			226:5-226:16			
11/17/06	Blewitt, Stephen			226:19-227:14	22		GE
11/17/06	Blewitt, Stephen			227:19-229:13	23		GF
11/17/06	Blewitt, Stephen			230:10-231:18	24		LW
11/17/06	Blewitt, Stephen			253:1-254:5	28		LX
11/17/06	Blewitt, Stephen			255:5-255:20			
11/17/06	Blewitt, Stephen			256:11-257:12			
11/17/06	Blewitt, Stephen			262:12-262:21			
11/17/06	Blewitt, Stephen			265:17-266:4			
05/16/07	Blewitt, Stephen			276:17-278:16			
05/16/07	Blewitt, Stephen			283:1-283:18			
05/16/07	Blewitt, Stephen			283:22-283:23	32		821
05/16/07	Blewitt, Stephen			286:9-287:2			
05/16/07	Blewitt, Stephen			288:2-288:8	33		554
05/16/07	Blewitt, Stephen			305:3-305:24			

Depo Date	Witness	Hancock Designation	Abbott Counter Designation	Abbott Designation	Deposition Exhibit	Plaintiff Exhibit	Defendant Exhibit
05/16/07	Blewitt, Stephen			306:20-307:23	36		GG
05/16/07	Blewitt, Stephen			308:11-309:9			
05/16/07	Blewitt, Stephen			310:9-312:2			
05/16/07	Blewitt, Stephen			314:3-314:24			
05/16/07	Blewitt, Stephen			316:12-318:17	38		822
05/16/07	Blewitt, Stephen			318:20-318:24	39		823
05/16/07	Blewitt, Stephen			319:19-319:23			
05/16/07	Blewitt, Stephen			321:1-322:8			
05/16/07	Blewitt, Stephen			324:1-324:11	41		824
05/16/07	Blewitt, Stephen			325:22-326:7			
05/16/07	Blewitt, Stephen			327:8-328:18			
05/16/07	Blewitt, Stephen			350:10-350:11	43		GH
05/16/07	Blewitt, Stephen			350:21-352:24	44		671
05/16/07	Blewitt, Stephen			353:18-355:5			
05/16/07	Blewitt, Stephen			355:18-356:23			
05/16/07	Blewitt, Stephen			357:9-357:18			
05/16/07	Blewitt, Stephen			358:6-358:8			
05/16/07	Blewitt, Stephen			358:19-358:22			

Depo Date	Witness	Hancock Designation	Abbott Counter Designation	Abbott Designation	Deposition Exhibit	Plaintiff Exhibit	Defendant Exhibit
05/16/07	Blewitt, Stephen			380:3- 381:19			

Color Key to Deposition Designations

 Designation by Plaintiffs

 Counter Designation by Defendants

 Designation by Defendants

Blewitt, Stephen 7/16/2004 9:33:00 AM

1 Volume: I
Pages: 1 to 293
2 Exhibits: 30 to 48
3

4 UNITED STATES DISTRICT COURT
DISTRICT OF MASSACHUSETTS
5

6 JOHN HANCOCK LIFE INSURANCE
COMPANY, JOHN HANCOCK VARIABLE
7 LIFE INSURANCE COMPANY, and
INVESTORS PARTNER LIFE INSURANCE
8 COMPANY,
Plaintiffs,
9

vs. Civil Action
10 No. 03 CV 12501 DPW
ABBOTT LABORATORIES,
11 Defendant.

12
13 DEPOSITION OF STEPHEN J. BLEWITT, a
14 witness called on behalf of the Defendant, taken
pursuant to the applicable provisions of the
15 Federal Rules of Civil Procedure before Cynthia A.
Powers, Shorthand Reporter and Notary Public in
16 and for the Commonwealth of Massachusetts, at the
law offices of Donnelly, Conroy & Gelhaar, LLP,
17 One Beacon Street, 33d Floor, Boston,
Massachusetts, on Friday, July 16, 2004,
18 commencing at 9:33 a.m.
19
20

21
22 KACZYNSKI REPORTING
23 72 CHANDLER STREET, SUITE 3
BOSTON, MASSACHUSETTS 02116
24 617 426-6060

1 graduating from college.

2 Q. Could you just walk us generally
3 through the positions you've held at John Hancock
4 since joining it in or about 1982, sir?

5 A. Sure. I initially began work in
6 the group pensions department in 1982 and worked
7 in that department until 1988 and then started up
8 in the bond and corporate finance group in 1988
9 and have worked in that department since that
10 time.

11 Q. Just briefly, sir, what is the bond
12 and corporate finance group at Hancock?

13 A. That is the primary fixed income
14 asset manager for John Hancock's general account
15 and third party accounts.

16 Q. And directing your attention to
17 the -- strike that.

18 You are on a specific investment
19 team; is that correct?

20 A. Yes.

21 Q. Would you tell us what
22 investment -- strike that.

23 And you're on a team called the
24 mezzanine investment team?

1 funding agreement between Abbott and Hancock?

2 MR. DAVIS: Just take a look at it

3 for a moment to confirm.

4 A. It's obviously many, many pages, so

5 I don't know if it's the one, but there's also

6 something where it, index of documents which is on

7 8077 that I don't recall being part of the actual

8 Research funding agreement.

9 Q. Okay. Look at page JH 8078. You

10 there?

11 A. Yes.

12 Q. Look at that and then look at your

13 signatures appearing on JH 8115. Those are your

14 signatures on JH 8115; correct?

15 A. Yes.

16 Q. Okay. Does that portion of the

17 exhibit appear to you without doing a page-by-page

18 comparison to your files to be an accurate copy of

19 the Research funding agreement, its text?

20 A. Yes.

21 Q. Okay. Mr. Blewitt, you were the

22 person at Hancock responsible for negotiating the

23 Research funding agreement; correct?

24 MR. DAVIS: Objection.

1 A. I was responsible for negotiating.

2 Q. Were you the person at Hancock
3 principally responsible for negotiation of the
4 deal?

5 A. Yes.

6 Q. Who else at Hancock was involved in
7 the negotiation of the Research funding agreement?

8 MR. DAVIS: Just to clarify, Larry,
9 when you say involved, are you saying having
10 direct contact with folks from Abbott with respect
11 to negotiation, are you saying having any
12 involvement whatsoever?

13 MR. DESIDERI: Any involvement,
14 those are two separate questions.

15 A. And I'm not certain if you're
16 asking with regard to the document or just the
17 whole agreement.

18 Q. The transaction.

19 A. Scott Hartz was involved, Roger
20 Nastou was involved, Amy Weed was involved on the
21 legal side, and then Brewster Lee and Kevin Tormey
22 were involved as outside counsel for John Hancock.
23 That's all I can think of right now.

24 Q. Okay. Now I'm going to ask you of

1 process; correct?

2 MR. DAVIS: Objection.

3 A. I could have asked Choate, Hall to

4 insert words or change words.

5 Q. Would you tell us very briefly,

6 sir, when and how the Research funding agreement

7 at Abbott arose?

8 A. I believe that that concept of the

9 Research funding agreement arose in late 1999 when

10 I contacted Phil Deemer regarding -- I don't

11 believe I presented anything other than just a

12 conversation with him at that time.

13 Q. And at that time did you present

14 Mr. Deemer with a concept of investing in

15 potential compounds that would become drugs?

16 MR. DAVIS: Objection.

17 A. I believe at that time I proposed a

18 concept of investing in, I don't remember if it

19 was compounds or actual drugs or a combination of

20 both.

21 Q. Okay. And that's what led

22 ultimately to the negotiation and entering into

23 the Research funding agreement; right?

24 MR. DAVIS: Objection.

1 A. I'm sorry, what led to that?

2 Q. Those discussions ultimately led to

3 the negotiation, drafting and entering into the

4 Research funding agreement; correct?

5 MR. DAVIS: Objection.

6 A. Yes, we -- during 2000 we had

7 further discussions and negotiations and

8 ultimately in 2001 we agreed to sign the Research

9 funding agreement.

10 MR. DESIDERI: Okay. Can we mark

11 this as Abbott Deposition Exhibit No. 30.

12 (Exhibit 30 marked

13 for identification)

14 Q. Mr. Blewitt, I'm handing you

15 what we have marked as Abbott Deposition Exhibit

16 No. 30. Do you see that document?

17 A. Yes.

18 Q. What is Abbott Deposition Exhibit

19 No. 30?

20 A. Exhibit No. 30 appears to be the

21 report, a copy of the report that I presented to

22 the bond investment committee on September 21,

23 2000, but there is some handwriting up on the

24 first page that I'm not aware of what that is.

1 Q. Okay. Well, first, sir, this is a
2 document that was authored by you and Mr. Hartz;
3 correct?

4 A. Yes.

5 Q. And it was provided to various
6 committees at John Hancock in order to obtain
7 approval for the Research funding agreement;
8 correct?

9 A. Yes.

10 Q. Okay. And, Mr. Blewitt, you said
11 you don't know whose handwriting that is in the
12 upper left-hand corner of the exhibit?

13 A. I don't.

14 Q. Okay. And when did you and
15 Mr. Hartz prepare this approval document that we
16 marked as Abbott Deposition Exhibit No. 30?

17 A. This actual document is dated as of
18 September 21, 2000. I don't know the time frame
19 under which it was in draft, draft form.

20 Q. Okay. And would you describe for
21 us the purpose of this document, sir?

22 A. The purpose of this document was to
23 recommend entering into what became the Research
24 funding agreement with Abbott.

1 Q. Okay. And did you in your writeup
2 that you sent to the approval committees at John
3 Hancock that we marked as Deposition Exhibit
4 No. 30 attempt to summarize the deal, its key
5 terms and the economic rationale of the deal to
6 the best of your ability?

7 MR. DAVIS: Objection.

8 A. Yes, yes.

9 Q. Would you describe for us briefly
10 what internal approvals were necessary at John
11 Hancock for you to enter into the Research funding
12 agreement on behalf of Hancock?

13 A. I don't recall whether or not we
14 needed approval for the bond investment committee
15 and the committee of finance or if we just needed
16 approval for the bond investment committee.

17 MR. DAVIS: Is this 31?

18 MR. DESIDERI: Yes, we'll do them
19 all as a group.

20 MR. DAVIS: Pardon?

21 MR. DESIDERI: We'll do them as a
22 group. Mark that as 31.

23 (Exhibit 31 marked
24 for identification)

1 report of Exhibit No. 30.

2 Q. In fact, if you look at the report
3 that you authored at the top, it says Report to
4 COF, October 10, 2000. Does that refer to report
5 to committee of finance, October 10, 2000?

6 A. Yes.

7 Q. During your involvement in the
8 approval process in front of the two committees,
9 committee of finance and bond investment
10 committee, Mr. Blewitt, did anyone voice
11 opposition to the Research funding agreement?

12 MR. DAVIS: Objection.

13 A. Not that I recall.

14 MR. DESIDERI: Thirty-two.

15 (Exhibit 32 marked

16 for identification)

17 Q. Mr. Blewitt, we've handed you what
18 we've marked as Abbott Deposition Exhibit No. 32;
19 do you see that?

20 A. Yes.

21 Q. Is Abbott Deposition Exhibit No. 32
22 a memorandum to file that you prepared?

23 A. Yes.

24 Q. And is Abbott Deposition Exhibit

1 No. 32 a file memo that you prepared after the
2 signing of the Research funding agreement to
3 document what you describe as significant changes
4 in the transaction between the final -- or strike
5 that.

6 Is Abbott Deposition Exhibit No. 32
7 a memo to file that you prepared to describe what
8 you believe to be significant changes between the
9 approval document that you had submitted to the
10 committees that we've marked as Abbott Deposition
11 Exhibit No. 30 and the final Research funding
12 agreement as signed?

13 MR. DAVIS: Objection.

14 A. Yes.

15 Q. And so you prepared Abbott
16 Deposition Exhibit No. 32 sometime after the
17 signing of the Research funding agreement;
18 correct?

19 A. Yes.

20 Q. And in that agreement -- strike
21 that.

22 And in the file memo that we marked
23 as Abbott Deposition Exhibit No. 32, you describe
24 what you believe to be the significant changes

1 between the actual Research funding agreement and
2 the report to the committee of finance; correct?

3 A. Yes.

4 MR. DAVIS: Objection. Please
5 pause for a moment.

6 Q. Mr. Blewitt, on the approval
7 document that we marked as Abbott Deposition
8 Exhibit No. 30, do you see where it says purchase
9 recommendations under the John Hancock Life
10 Insurance Company portion of the first page?

11 A. Yes.

12 Q. What does purchase recommendations,
13 recommendation refer to there?

14 A. The purchase recommendation is
15 something that is used on many transactions, it's
16 a form word, and it's generally to, that we are
17 recommending the purchase of a security.

18 Q. Okay, but when you look under the
19 title purchase recommendation --

20 A. Yes.

21 Q. -- there's a series of acronyms
22 with dollar amounts next to them in millions;
23 correct?

24 A. Yes.

Blewitt, Stephen 07/16/2004 9:33:00 AM

1 Q. Okay. Is Abbott Deposition Exhibit
2 No. 34 handwritten notes prepared by you, Stephen
3 Blewitt?

4 A. Yes.

5 Q. Okay. And are they handwritten
6 notes prepared by you, Stephen Blewitt, of
7 discussions that you had with Tom Lyons and
8 various other people as indicated at Abbott
9 concerning the Research funding agreement?

10 A. I believe that Tom Lyons was on all
11 of the calls that I had, so I believe the answer
12 is yes.

13 Q. Okay. If your notes indicate Tom
14 Lyons on the front, does that mean Tom Lyons was
15 on the call?

16 A. Yes.

17 Q. Now, Mr. Blewitt, these notes begin
18 on July 30, 2002. Do you have any handwritten
19 notes of discussions with Abbott prior to July 30,
20 2002?

21 A. I've provided all of the notes that
22 I have, so I don't know if there were any before
23 this date.

24 Q. Okay. You had periodic calls with

1 Mr. Lyons once he came involved in the Research
2 funding agreement; correct?

3 A. Yes.

4 Q. Did you have those periodic calls
5 with anyone prior to Mr. Lyons getting involved?

6 A. I don't recall if I did or not. I
7 don't recall when Mr. Lyons came on board.

8 Q. And during these periodic calls
9 would Mr. Lyons and at times various other
10 individuals from Abbott provide you with updates
11 regarding the status of the things going on in the
12 research program and spending under the research
13 program?

14 MR. DAVIS: Objection.

15 A. Yes.

16 (Exhibit 35 marked
17 for identification)

18 Q. Mr. Blewitt, our court reporter has
19 handed you what we've marked as Abbott Deposition
20 Exhibit No. 35. Do you see that?

21 A. Yes.

22 Q. Now, Abbott Deposition Exhibit
23 No. 35 is a document that Mr. Lyons sent to you,
24 Mr. Steve Blewitt, on or about December 20, 2002;

1 in December of 2002.

2 Q. But that's not what your notes
3 reflect Mr. Lyons said he would be sending to you;
4 correct?

5 MR. DAVIS: Objection.

6 A. My notes indicate that, well, it
7 says revised plans, Tom has -- I don't know what
8 it says Tom will be sending, if it's the revised
9 plans or if it's what I actually asked him for.

10 Q. Okay.

11 (Whereupon, a recess was taken from
12 3:27 to 3:35)

13 (Exhibit 36 marked
14 for identification)

15 BY MR. DESIDERI:

16 Q. Mr. Blewitt, who is John
17 Mastromarino at Hancock?

18 A. Good job. Mr. Mastromarino was
19 formerly the chief risk officer for the company.

20 Q. Is he still with the company?

21 A. No.

22 Q. Short tenure; correct?

23 A. I don't know how long he was at the
24 company.

1 Q. Well, let me ask you some questions
2 about Mr. -- or strike that.

3 When did Mr. Mastromarino leave the
4 company?

5 A. I'm not precisely sure, sometime
6 within the last I'd say nine months or so.

7 Q. Do you know why he left Hancock?

8 A. I'm not certain. I believe though
9 that as part of the, either the merger or merger
10 planning with Manulife that there was duplication
11 in the job function.

12 Q. Do you know where Mr. Mastromarino
13 works today?

14 A. No.

15 Q. Do you have any information about
16 Mr. Mastromarino's whereabouts?

17 A. I don't.

18 Q. Did Mr. Mastromarino join Hancock
19 in or about 2003?

20 A. I don't know when he joined the
21 company.

22 Q. You don't have any idea?

23 A. I know it's not twenty years ago or
24 ten years ago, I know it was certainly within the

1 last couple of years and actually I'll -- my

2 presumption is that it was sometime either late

3 2002 or early 2003.

4 Q. Okay. And Mr. Mastromarino managed

5 Hancock's enterprise risk management department

6 within the financial sector; right?

7 A. Well, I know he was the chief risk

8 officer. I don't know about that particular

9 department.

10 Q. Was it fair to say his primary

11 responsibility was to identify, prioritize and

12 monitor all significant risk exposures throughout

13 the organization in or about 2003?

14 MR. DAVIS: Objection.

15 A. Yeah, that -- I don't know what his

16 specific job function was, but that sounds

17 reasonable.

18 Q. Is that basically your

19 understanding what his job responsibilities were?

20 MR. DAVIS: Objection.

21 A. Yes.

22 Q. And was Mr. Mastromarino senior to

23 you at Hancock during, say, the summer of 2003?

24 A. I didn't report to him, and I don't

1 believe that Barry Welch reported to him, but it's
2 possible that his corporate title was higher than
3 my corporate title.

4 Q. Mr. Mastromarino was a senior
5 vice-president; correct?

6 A. I don't know. It says chief risk
7 officer on what I'm looking at.

8 Q. If Mr. Mastromarino were a senior
9 vice-president of the company, is that a higher
10 position than yours within the John Hancock
11 hierarchy?

12 A. Yes.

13 Q. How about Mr. Welch, is he a senior
14 vice-president?

15 A. I believe that he is.

16 Q. Was he in the summer of 2003?

17 A. I don't know.

18 Q. How about Mr. Nastou, was he a
19 senior vice-president in the summer of 2003?

20 A. I believe that the summer of 2003
21 that he was probably retired and a consultant to
22 the bond and corporate finance group at that time.

23 Q. Okay.

24 A. I believe he was formerly a senior

1 vice-president.

2 Q. And how about Scott Hartz, was he a
3 senior vice-president in or about the summer of
4 2003?

5 A. I don't believe he was.

6 Q. How did Mr. Mastromarino come to be
7 involved in reviewing the merits of the Abbott
8 Research funding agreement, Mr. Blewitt?

9 MR. DAVIS: Objection.

10 A. Mr. Mastromarino I believe was part
11 of a committee where many loans or in some effects
12 all loans are presented on a quarterly basis, were
13 presented on a quarterly basis to this committee,
14 and so this transaction was one of a number of
15 transactions that was presented at that time on a
16 review basis.

17 Q. Is that called loan review?

18 A. It was. I think it still is called
19 loan review.

20 Q. What committee -- or strike that.

21 Was Mr. Mastromarino the head of
22 this committee?

23 A. I don't think so.

24 Q. What was the name of the committee

1 that Mr. Mastromarino would review and bring loans
2 to for review?

3 A. I think it was the investment
4 review committee.

5 Q. Who was on the investment review
6 committee?

7 A. During the summer of 2003?

8 Q. Yes.

9 A. I'm not sure of the participants.
10 I believe Wilma Davis was part of the committee, I
11 believe Barry Welch was on the committee, and I
12 believe Scott Hartz is on the committee, but I
13 don't know the makeup of that committee, the
14 entire makeup of that committee.

15 Q. Approximately how many people are
16 on the committee?

17 A. I don't know.

18 Q. And what was Mr. Mastromarino's
19 purpose in reviewing the Abbott Research funding
20 agreement in or about March of 2003?

21 MR. DAVIS: Objection.

22 A. I believe that this was his first
23 or one of his first loan review meetings and would
24 have been the first time he was aware of the

1 transaction and so he then spent, as he says, he
2 spent some time reviewing the transaction.

3 Q. But for what purpose is

4 Mr. Mastromarino reviewing the Abbott Research
5 funding agreement in March of 2003?

6 MR. DAVIS: Objection.

7 A. As part of the investment review
8 committee all, a number of transactions, many
9 transactions are presented to this committee
10 ranging from loans in default to large exposures
11 to equity securities and so it was just part of
12 that process that he would have reviewed the
13 transaction.

14 Q. Okay. Look at Abbott Deposition
15 Exhibit No. 36. Do you have that, sir?

16 A. Yes.

17 Q. Okay. Now, Abbott Deposition
18 Exhibit No. 36 is two e-mails that you received
19 while at Hancock in or about March 14, 2003;
20 correct?

21 A. I believe I just received one
22 e-mail where there was an attachment, a second
23 e-mail that was attached to it.

24 Q. Right, but you received the

Blewitt, Stephen J. (Linked) 11/17/2006 9:00:00 AM

1 Volume: I

Pages: 1 - 271

2 Exhibits: 1 - 31

3 UNITED STATES DISTRICT COURT
4 FOR THE DISTRICT OF MASSACHUSETTS

4

5 ----- x

JOHN HANCOCK LIFE INSURANCE COMPANY,
6 JOHN HANCOCK VARIABLE LIFE INSURANCE
COMPANY, and MANULIFE INSURANCE COMPANY
7 f/k/a INVESTORS PARTNER INSURANCE COMPANY,

8 Plaintiffs,

9 VS CIVIL ACTION

NO. 05-1150DPW

10 ABBOTT LABORATORIES,

11 Defendant.

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12

13

14 VIDEOTAPED DEPOSITION OF STEPHEN J.

15 BLEWITT, a witness called by counsel for the

16 Defendant, taken pursuant to the Federal

17 Rules of Civil Procedure, before Helana Eve

18 Kline, a Massachusetts Certified Shorthand

19 Reporter & Registered Professional Reporter

20 and Notary Public in and for the Commonwealth

21 of Massachusetts, at the Law Offices of

22 Donnelly, Conroy & Gelhaar, One Beacon

23 Street, Boston, Massachusetts, on Friday,

24 November 17, 2006, commencing at 9:00 a.m.

25

1 first deposition is concerned, well, it was
2 not the issues that are involved in this
3 case, so I think everybody will concede that.

4 MR. DAVIS: No, I won't concede that.
5 In fact, I questioned Mr. Blewitt about Section
6 3.3(b) at that deposition.

7 MR. WEINBERGER: They wouldn't let him
8 answer too much.

9 MR. DAVIS: No. In fact, he did provide
10 answers about that section.

11 MR. WEINBERGER: Let's go.

12 DIRECT EXAMINATION BY MR. WEINBERGER:

13 Q. Please state your full name for the record.

14 A. Stephen James Blewitt.

15 Q. What's your current business address,
16 Mr. Blewitt?

17 A. 197 Clarendon Street in Boston, Mass.

18 Q. What's your current title?

19 A. Senior Managing Director.

20 Q. Has your title changed since the last time
21 you were deposed in this case -- I guess not
22 in this case but in Hancock one by a different
23 law firm but --

24 A. I don't believe so.

1 Q. And have your reporting responsibilities

2 changed since that time?

3 A. No.

4 MR. DAVIS: The same stipulations as

5 yesterday?

6 MR. WEINBERGER: Yes.

7 THE VIDEOGRAPHER: Mr. Blewitt, can you

8 raise your mike a bit? Yeah, bring it up about

9 double the way you had it before --

10 THE WITNESS: I'm sorry.

11 THE VIDEOGRAPHER: -- a little further

12 I'd say.

13 THE WITNESS: Even more?

14 THE VIDEOGRAPHER: Yeah, that's good.

15 Thanks.

16 A. Okay. Can I just on the last question my

17 reporting, I still report into the head of

18 the bond and corporate finance group; and I'm

19 not sure if it was Barry Welch or Scott Hartz

20 at that time.

21 Q. Who is it now?

22 A. It's Scott Hartz.

23 Q. Who was it at the time of the transaction in

24 question in this case?

1 A. Roger Nastou.

2 Q. Now, you've had your deposition taken at least

3 once before, I know that have there been any

4 other occasions?

5 A. Yes.

6 Q. About how many?

7 A. Probably about four or five.

8 Q. Generally speaking, in what connection was

9 your deposition taken in the past?

10 A. It was inform consent with transactions

11 relating to John Hancock, that John Hancock

12 was involved in.

13 Q. Were any of those transactions in the

14 pharmaceutical area?

15 A. I don't believe so.

16 Q. Were those actions in which John Hancock was

17 a plaintiff or a defendant?

18 A. I think we were the plaintiff in all of those.

19 Q. Were any of those actions in which Hancock was

20 claiming that it had been either defrauded or

21 that there had been breach of warranties or

22 representations with respect to the investment

23 in question?

24 A. I believe that at least one had to do with

1 comment to the Court that you gave me one
2 answer when you were asked the question;
3 that when you had time to figure out the
4 importance or significance or the like of
5 the question, that you changed it or added
6 it ... so it's in everybody's best interests
7 that you give me your best answer today
8 instead of relying on the subsequent ability
9 to change your answer.

10 Do you understand that?

11 MR. DAVIS: Objection. You can answer.

12 A. Yes.

13 Q. Okay. And if you have any other questions,
14 you let me know; but since you've been through
15 this drill before, I'm not going to spend
16 any more time on explaining it to you unless
17 you feel you need me to. Do you?

18 A. No.

19 Q. When did you first consider the possibility
20 of entering into the transaction with Abbott
21 that we're talking about here?

22 A. I believe it was late 1999.

23 Q. And how did that arise?

24 A. It had arose either through a call -- it arose

1 through a call that I had with Phil Deemer.

2 Q. You knew Mr. Deemer before this call, I take

3 it?

4 A. Yes.

5 Q. How did you know him?

6 A. Through a prior transaction.

7 Q. Can you be more specific?

8 A. A transaction involving a company called

9 Metabolics, John Hancock, and Abbott.

10 Q. Just very briefly describe what was the nature

11 of that transaction?

12 A. The transaction was an investment that John

13 Hancock made in, I believe it was, common

14 equity of Metabolex; and we had a Put right

15 on our common equity back to Abbott

16 Laboratories.

17 Q. So Metabolex was an independent company from

18 Abbott, correct?

19 A. Abbott may have had an equity interest in

20 Metabolex, I'm not certain; but it was a stand-

21 alone -- I don't believe it was a subsidiary of

22 Abbott.

23 Q. Did you have any other dealings with Abbott

24 Laboratories besides the Metabolex case before

1 the discussion with Mr. Deemer?

2 A. I don't remember the time frame, but there

3 were other transactions that we did work on,

4 and I'm trying to think now back if Mr. Deemer

5 was actually involved in Metabolex or not.

6 Q. Let's broaden it to Abbott, not limit to

7 Mr. Deemer.

8 A. Okay.

9 Q. So were there other transactions that you had

10 prior -- that you had involvement with prior

11 to the investment that's the subject of this

12 case with --

13 A. Again, I'm not positive on the time frame,

14 but I know we worked on a transaction that

15 Hancock made an investment in a company

16 called Idun Pharmaceuticals.

17 We, at some point in time, talked about

18 a transaction in a company called Antisoma

19 that was not completed.

20 Q. What's the name of that?

21 A. Antisoma.

22 Q. Can you spell that?

23 A. A-n-t-i-s-o-m-a.

24 Q. All right.

1 A. Which we did not make an investment in, and
2 there may have been -- there were other
3 companies that we discussed. I don't remember
4 the time frame, and I don't believe -- well,
5 I know we never completed any of the other
6 transactions.

7 Q. What was the Idun deal about?

8 A. I believe it initially started as a
9 transaction similar to Metabolex, but I
10 believe it ultimately just became a common
11 stock investment for John Hancock.

12 Q. And what was Abbott's involvement in that
13 investment?

14 A. Well, initially, it was, I think, that they
15 wanted to make an investment in Idun and
16 support our stock investment through a Put, or
17 at least that's the way I think it was initially
18 discussed.

19 I think they either had a common equity
20 investment or made a common equity investment
21 at the same time that we did.

22 Q. Am I right that John Hancock has made prior
23 to this transaction, John Hancock, in addition
24 to the Metabolex and Idun transactions, made

1 other investments in the pharmaceutical

2 industry, correct?

3 A. Yes.

4 Q. Can you tell me about how many?

5 A. I don't know an exact number ... maybe less

6 than ten.

7 Q. Did they take various different forms?

8 A. Yes.

9 Q. Were some of them equity investments?

10 A. Yes.

11 Q. Were some of them debt?

12 A. Yes.

13 Q. I'm going to mark a series of documents as

14 Exhibits 1 through wherever we wind up. I'll

15 mark them all together, and then we'll just go

16 through them one by one.

17 Let me read into the record what we just

18 marked so we're all on the same page.

19 (Deposition Exhibit Nos. 1 - 9

20 marked for Identification.)

21 MR. WEINBERGER: Exhibit 1 is the summary

22 recommendation for Metabolex. Exhibit 2 is a

23 one-page report of purchase on for Alza,

24 Exhibit 3 is a purchase recommendation for

1 Purdue.

2 Exhibit 4 is a purchase recommendation

3 for Celgene. Then, I have Exhibit 6 -- did we

4 miss one? I think I'll do them one at a time

5 from now on. I don't see a 5 here ... 5 is a

6 purchase recommendation for Idun; 6, a

7 purchase recommendation for Purdue, so that

8 may be a duplicate. Let me look ... I should

9 have stapled these, I think. It's different.

10 7 is a purchase recommendation for Elan.

11 8 is a purchase recommendation for Celgene,

12 which, you know, maybe we'll see by the time

13 we get to it if it's a duplicate; I don't know

14 if it is or not.

15 MR. DAVIS: I don't think I have that

16 one.

17 MR. WEINBERGER: You should. 9 is a

18 report of purchase with respect to Lilly del

19 Mar.

20 THE VIDEOGRAPHER: So they're all marked

21 at this time just to make sure?

22 MR. WEINBERGER: Yes.

23 Q. So I don't want to spend a lot of time on

24 these, Mr. Blewitt, if we don't have to, so

1 what I'd like you to do is go through each one
2 and give me a very very brief summary of what
3 the transaction was. Can you do that?

4 A. Yes.

5 MR. DAVIS: Objection. You can respond.

6 A. I'm sorry.

7 Q. Yeah. Starting with Exhibit 2, which is
8 Metabolex, you've briefly described that
9 already?

10 MR. DAVIS: Exhibit 1 is Metabolex.

11 Q. I'm sorry, Exhibit 1 is Metabolex. Starting
12 with that, is this the transaction that you
13 described in your testimony a few minutes ago?

14 A. Yes.

15 Q. And what kind of compounds did this investment
16 involve?

17 A. The investment was an investment in the
18 company, Metabolex.

19 Q. Okay, fair enough. But they were in business,
20 they were a company that developed certain
21 compounds, right?

22 A. At the time the company was focused, I
23 believe, almost exclusively, on -- well, I
24 don't know; I can't remember if it was

1 exclusively, but they were certainly focused

2 on treatments for diabetes.

3 Q. Okay. And in connection with this investment,

4 did you perform any due diligence with respect

5 to the potential markets for new treatments for

6 diabetes?

7 A. My belief is that we did.

8 Q. Do you have any recollection of what the due

9 diligence consisted of?

10 A. I don't -- actually, we did. We did, but just

11 a general analysis of -- through industry

12 research reports in terms of the overall market,

13 but then we also engaged a scientific consultant

14 to help us look at the markets as well.

15 Q. And I should ask you, you were the senior

16 investment officer prior to this transaction,

17 correct?

18 A. Yes.

19 Q. Do you know who the scientific, I think you

20 called it, officer was -- scientific consultant?

21 A. A gentleman by the name of Alan Haberman.

22 Q. Am I correct that Abbott's involvement in

23 this transaction was, in addition to what

24 you described, Abbott was engaged in a joint

- 1 research program with Metabolex with respect
- 2 to the potential new treatments for diabetes?
- 3 A. Yes, I believe that's right.
- 4 Q. Would you look at Exhibit 2? It appears to
- 5 reflect a purchase of some sort with respect
- 6 to, it looks like, a promissory note?
- 7 A. Yeah, it indicates it's a report of purchase.
- 8 Q. It appears that you already had other holdings
- 9 in Alza, is that right?
- 10 A. That's -- it says, "Hancock's Holdings of 36
- 11 million," which I believe, but I'm not certain,
- 12 refers to other holdings in Alza.
- 13 Q. Can you very briefly describe the nature of
- 14 this transaction?
- 15 A. The only thing I remember about this
- 16 transaction is that it had to do with some
- 17 low income tax credits and -- but I don't
- 18 remember; I don't remember really anything
- 19 more than that.
- 20 Q. Would you look at the next exhibit, which is
- 21 Exhibit 3. This is the purchase recommendation
- 22 for -- in connection with various Purdue
- 23 Pharma companies, correct?
- 24 A. Yes, it appears that way.

1 Q. And you were the senior investment officer in
2 connection with this transaction?

3 A. Correct.

4 Q. And in connection with this transaction, did
5 you evaluate the existing products and product
6 pipeline of Purdue and Abbott Laboratories?

7 A. Yes.

8 Q. And some of that is reflected on Page 6 and
9 Page 7 of the document, correct under the
10 headings: Product Pipeline and Competition?

11 A. Well, I think you asked about the existing
12 products in the pipeline so the product
13 pipeline is on Page 6.

14 Q. Right.

15 A. And the products are on Page 5.

16 Q. Okay. Did you have any kind of a scientific
17 consultant to assist you with this transaction?

18 A. I don't recall if we did.

19 Q. All right. The next exhibit, I think, is
20 Exhibit 4 is a purchase recommendation for
21 Celgene; is that right? Yes? Is that yes?

22 MR. DAVIS: Objection. If you need to
23 take a look at the document, please take a look.

24 Q. No, no. I thought he was just waiting for me.

1 A. Oh, no.

2 MR. DAVIS: Oh.

3 Q. I wasn't trying to rush him.

4 A. Yes.

5 Q. And here you evaluated the value of an

6 approved drug that Celgene had for the

7 treatment of certain inflammatory

8 complications of leprosy?

9 A. That was, the leprosy indication I believe,

10 was at the time the only indication that

11 Thalomid was approved for.

12 Q. And in connection with this transaction, did

13 you talk to any independent scientific

14 consultants?

15 A. I don't remember if we did or not. I don't

16 recall.

17 Q. Okay. The next exhibit, 5, is a purchase

18 recommendation for Idun Pharmaceuticals;

19 is that what you have in front of you?

20 A. Yes.

21 Q. And could you briefly describe the nature of

22 this transaction?

23 A. I believe that this was a stock investment in

24 Idun Pharmaceuticals. It was a convertible

1 preferred stock investment.

2 Q. And according to the memo, Idun is a

3 biopharmaceutical company focused on design

4 and development of small molecule therapeutics

5 targeting the biochemical pathways that cause

6 apoptosis or cell death," is that your

7 recollection?

8 A. Yes.

9 Q. Were these products that were in discovery

10 and development as opposed to actual products

11 on the market?

12 A. Yes, I don't believe that they had any

13 products on the market.

14 Q. And did you -- and I think you indicated that

15 Abbott had some involvement in this company,

16 can you tell me what that was?

17 A. My recollection is that there were some

18 agreements between Idun and Abbott as it

19 related to development of compounds for the

20 treatment of cancer.

21 Q. Now, did you engage in due diligence with

22 respect to this transaction?

23 A. Yes.

24 Q. Did you engage scientific consultant or

1 consultants to evaluate the development of

2 developmental drugs?

3 A. Yes.

4 Q. Was that Dr. Klotz?

5 A. Dr. Klotz was one of two.

6 Q. And who was the other?

7 A. Dr. Jay George.

8 Q. Let's turn to the next exhibit, please.

9 A. Yes.

10 Q. This looks like notes that were going to be

11 used for a real estate acquisition, is that

12 right?

13 A. Yes.

14 Q. And we've already talked about your knowledge

15 of Purdue's products in development and actual

16 products, was there any additional work in

17 connection with this transaction?

18 MR. DAVIS: Objection.

19 Q. Let me strike that and rephrase the question.

20 If you look at the memo, it appears that

21 there was an analysis of the existing stable

22 of products and the product pipeline; is that

23 correct, for example, Page 5 and Page 6?

24 A. Yes.

1 Q. Did you engage a scientific consultant in that
2 connection?

3 A. I don't believe we did.

4 Q. The next exhibit which I think is 7 -- is
5 yours 7, Elan?

6 A. Yes.

7 Q. This appears to be a purchase recommendation
8 for 70 million dollars with senior notes of
9 Elan Pharmaceuticals, is that right?

10 A. Yes.

11 Q. And were you the senior investment officer on
12 this transaction?

13 A. Yes.

14 Q. What types of products in the pipeline were
15 you looking at with respect to Elan? I'd
16 direct you to Page 6, if you want to save a
17 little time?

18 A. Well, we made an investment in, again, it
19 was a company --

20 Q. Right.

21 A. -- here, so we certainly looked at products
22 or products in the pipeline, but the
23 investment was in the company.

24 Q. But understood the value of the company

1 was only as good as its actual products and

2 products in the pipeline, correct?

3 MR. DAVIS: Objection. You may answer.

4 A. Those certainly contributed to the value.

5 There may have been other, other values in

6 the company.

7 Q. So Page 5 you list principal products that

8 Elan markets, correct?

9 A. Yes.

10 Q. And then below that and over into the next

11 page, you list their proprietary pipeline?

12 A. Yes.

13 Q. Did you do any due diligence with respect to

14 either existing products or their pipeline of

15 products?

16 A. I'm sorry, repeat the question please?

17 Q. Did you perform any due diligence, scientific

18 due diligence, with respect to either or both

19 of their existing products or pipeline of

20 products in development?

21 A. We certainly performed due diligence. I don't

22 remember if we did scientific due diligence.

23 Q. You don't remember whether you engaged a

24 scientific consultant or otherwise tried to

1 perform any analysis of the value of these
2 compounds?

3 A. Well, I believe that we evaluated the company
4 and the compounds that the company had, but
5 I don't remember if we hired any outside
6 scientific consultant.

7 Q. Okay. Then, the next exhibit in order, which
8 I think is perhaps 8, is another investment in
9 Celgene; is that just an additional investment
10 of the same nature as the one you previously
11 made in Celgene?

12 A. It was an additional investment -- an
13 additional investment of the same nature.
14 I don't remember if all the terms are exactly
15 the same.

16 Q. Okay, and did you perform any additional
17 scientific due diligence with respect to
18 Thalamid or any other potential products that
19 Celgene might have at this time?

20 A. I don't believe that we engaged any scientific
21 consultants as it relates to Celgene, our
22 investment in Celgene.

23 Q. And, finally, Exhibit 9 appears to be a
24 purchase recommendation -- I'm sorry, a report

1 of purchase for bonds, 25 million in Lilly del

2 Mar. Do you see that?

3 A. Yes.

4 Q. And you were the senior investment officer

5 with respect to that transaction, right?

6 A. Yes.

7 Q. And can you briefly tell me what this

8 transaction was about?

9 A. All that I can recall at this time is that

10 it was an investment in a special purpose or

11 a new subsidiary of Eli-Lilly & Company.

12 Q. And what products was that subsidiary going to

13 market or develop?

14 A. I don't remember if there were any specific

15 products in Lilly del Mar.

16 Q. All right. Now, you said that you had a

17 conversation with Mr. Deemer in 1999, which

18 was the first conversation about the concept

19 of making the investment that resulted in

20 the transaction that is the subject of this

21 lawsuit.

22 Can you tell me as best as you can

23 recall what transpired in that conversation?

24 A. I don't remember the specifics of the call,

1 but -- and I don't -- I'm not certain now as

2 to who called who, but I believe that the

3 concept was raised about investing in a

4 portfolio of compounds being sponsored by

5 Abbott Laboratories.

6 Q. Okay. Do you recall who made that proposal

7 or that suggestion?

8 A. I don't remember who called who.

9 Q. My question's a little bit different, which

10 is, do you recall who made this -- who came up

11 with the idea that Hancock might invest in a

12 group or basket of Abbott drugs directly?

13 A. Right. I think the call was to propose that,

14 and, again, so I don't remember who proposed

15 that notion.

16 Q. But in any event, you were interested in

17 pursuing that, correct?

18 A. Yes.

19 Q. Why?

20 A. It was a potential investment opportunity for

21 John Hancock.

22 Q. Was this the first time that you had looked

23 into the possibility of an investment into a

24 specific basket of drugs as opposed to an

1 investment in a company which had drugs

2 under development?

3 A. I don't believe it was.

4 Q. Had you ever entered into an investment of

5 this nature before?

6 MR. DAVIS: Objection.

7 A. I'm not certain of the timing, but I believe.

8 Q. Let me -- I'm sorry, I don't mean to interrupt

9 you, but I want to respond to the objection

10 by rephrasing the question.

11 Had you ever invested in a transaction

12 which involved a direct investment in a

13 specific basket of drugs at various stages

14 of development before this?

15 A. I'm not certain of the timing, but I believe

16 it was prior to the conversation with

17 Mr. Deemer that John Hancock made an

18 investment in a company that the company had

19 just a basket of compounds in it, so I believe

20 that the investment was an investment in a

21 company, but that company was exclusive to

22 just a number of compounds.

23 Q. What company was that?

24 A. Pharma Marketing.

- 1 Q. Pharma Marketing, and how much did Hancock
2 invest in that?
- 3 A. I'm not certain, maybe 25 million.
- 4 Q. Do you recall anything about the nature of the
5 compounds that Pharma was developing?
- 6 A. I remember that at least one had to do with
7 pain; I think one had to do with migraines.
- 8 Q. Were these in various stages of development?
9 One may have been approved at the time; and
10 then the others, I believe, were either
11 waiting for approval or finishing, finishing
12 clinical trials; did you conduct scientific
13 due diligence with respect to the prospects
14 for these compounds before making -- before
15 recommending the investment in Pharma?
- 16 A. I believe that there was consultant hired
17 for the group of investors.
- 18 Q. Do you remember who that is?
- 19 A. I believe that the gentleman's name was Bob
20 Easton or Robert Easton, but I'm not 100%
21 certain about that.
- 22 Q. Would it be fair to say that by the time
23 of your conversation with Mr. Deemer in late
24 1999 you had substantial experience in

1 evaluating potential investments in the
2 pharmaceutical industry both with respect to
3 compounds under development and products
4 actually approved?

5 MR. DAVIS: Objection.

6 A. I had certainly made a number of investments
7 in companies in the pharmaceutical industry;
8 and, again, I'm not sure of the timing of
9 Pharma Marketing, but they possibly had made
10 an investment in a company that was primarily
11 focused around a basket of compounds.

12 Q. So you'd agree that you had substantial
13 experience in evaluating those kinds of
14 investments, isn't that true?

15 MR. DAVIS: Objection, asked and answered.

16 You can respond.

17 A. One could say that.

18 Q. And you felt that you were qualified to
19 engage in an evaluation on behalf of Hancock
20 with assistance of scientific consultants if
21 necessary of the prospects for pharmaceutical
22 compounds in development, is that fair?

23 A. I certainly felt that I was qualified to, to
24 look at making investments in companies and

1 looking at, you know, what -- in certain
2 instances scientific consultants to evaluate
3 particular compounds or categories of diseases.

4 Q. Okay. Now, I think you indicated the reason
5 why John Hancock was interested in this
6 concept; did you have any understanding from
7 Mr. Deemer as to the reasons why Abbott was
8 interested in this concept?

9 MR. DAVIS: Objection. You can respond.

10 A. I don't remember at that time -- at the time
11 of the first telephone call if I did or did
12 not know why Abbott might be interested in
13 that structure.

14 Q. Well, would it be fair to say in or about
15 1999 Abbott was actively searching for a way
16 to share the financial burden associated with
17 funding the development of new pharmaceutical
18 compounds?

19 MR. DAVIS: Objection.

20 A. I believe that was true. I'm just not sure
21 if I knew that on the first call.

22 Q. Okay. Maybe I didn't mean to be quite that
23 specific, I'm talking about in a general time
24 frame did you have an understanding of why

1 Abbott was interested in this deal, so my

2 statement was correct then, that --

3 MR. DAVIS: Objection. You can respond.

4 A. In the general time frame, certainly, I

5 believe the call was in December of 1999, so

6 certainly, in the early 2000 -- first half of

7 2000, maybe late 1999, I had an understanding

8 of Abbott's interest in this type of a

9 transaction.

10 Q. Okay. Specifically, did you have an

11 understanding in this general time frame

12 that Abbott was interested in obtaining

13 external funding so that it could pursue

14 more potentially viable drug development

15 opportunities than its own projected

16 internal funding would allow?

17 MR. DAVIS: Objection. You can respond.

18 A. My understanding in that general time frame

19 was that Abbott was looking to increase the

20 number of compounds that they were trying to

21 develop, and were talking to external

22 financing sources as a way to develop more

23 with, with their resources.

24 Q. So, in other words, to develop more compounds

1 than they would otherwise do if they were

2 limited to their own internal funding; is

3 that right?

4 MR. DAVIS: Objection. You can respond.

5 A. That was my understanding, yes.

6 Q. So there might have been compounds out there

7 that they would not have pursued based on

8 their own internal funding priorities, but

9 they thought they could pursue if they got

10 some external financing, is that fair?

11 MR. DAVIS: Objection.

12 A. Yeah, my understanding was that within their

13 budget that they would have to chose certain

14 compounds to try and develop; and by having

15 additional funding, they were able to

16 increase the number of compounds that they

17 would have able to attempt to develop.

18 Q. Okay. What happened after your phone call

19 with Mr. Deemer? Well, let me first ask you --

20 I'm sorry -- is there anything else you can

21 recall about the call with Mr. Deemer that we

22 haven't talked about?

23 A. No.

24 Q. Well, what happened next?

1 A. I don't remember the chain of events. I do
2 believe that in the new year we did begin to
3 discuss a potential transaction.

4 Q. Now, internally, was there a required rate of
5 return that you needed to achieve in order to
6 pursue and recommend a transaction of this
7 nature?

8 A. I don't remember if there was a specific
9 required rate of return.

10 Q. So you have no recollection of whether there
11 was a minimum rate of return that you needed
12 to achieve or demonstrate?

13 A. Well, we would certainly look at, at achieving
14 at least a -- this was not -- I don't believe
15 this was our thinking, that we were targeting
16 a minimum return for the transaction, but
17 one indication that we might look to was the
18 treasury markets as a potential rate of return
19 as a mix, but we would expect to exceed that.

20 Q. And by the treasury markets, can you be a
21 little more specific?

22 A. Just return on treasuries, treasury bonds,
23 but I'm not saying that that was a minimum
24 that we were targeting.

1 Q. You looked at that as some sort of a
2 guidepost for a minimum, is that what you're
3 saying?

4 A. No, I was trying to answer the question; in
5 that, just generally, that I don't believe we
6 would have looked for a rate of return that
7 was below treasuries; but I don't remember
8 that, for a transaction of this nature, that
9 we had a targeted minimum return.

10 Q. At what point in time in the discussions with
11 Abbott did you begin talking about a specific
12 basket of drugs?

13 A. I don't know specifically when, when we would
14 have looked at a specific basket of drugs.
15 I believe it was in the first half of 2000,
16 but I'm -- I don't remember the first time
17 we were looking at specific compounds.

18 Q. And what criteria, if any, did John Hancock
19 have for the make up of the basket of compounds?

20 A. I don't remember, you know, all the criteria.
21 I know -- I do remember that we wanted a
22 diversified portfolio or pool of compounds.

23 Q. When you say "diversified," you were
24 interested in having compounds at different

1 stages of development, correct?

2 MR. DAVIS: Objection.

3 A. That, I'm not sure if that specific

4 requirement -- I do remember that we wanted

5 to have a number of different compounds and

6 to have them be diversified by the indications

7 that they were going to treat so that they

8 would not all be cancer compounds is one

9 thing I remember.

10 Q. Right. It's true that five of the nine

11 compounds which wound up in the agreement were

12 being developed to treat cancer, correct?

13 A. That's correct.

14 Q. But there were compounds in preclinical

15 stages, in various stages of, you know,

16 various stages of clinical trials; is that

17 right?

18 A. Are you talking about initially or are you

19 talking about the final agreement?

20 Q. Let's talk about as it wound up.

21 A. As it wound up?

22 Q. Yeah.

23 A. Yes, there were compounds in various stages

24 of clinical development.

1 Q. Would it be fair to state that, generally
2 speaking, all other things being equal, if
3 you invest in a compound in earlier stage of
4 development the amount of investment as a
5 function of the expected sales down the end
6 of the road is going to be lower because the
7 risk is higher?

8 MR. DAVIS: Objection. You can respond.

9 A. I'm not sure I understand the question.

10 Q. If a compound, for example, has a 10% chance
11 of getting approved and has projected
12 royalties if it did get approved to you,
13 let's say of 20 million dollars, vis-a-vis a
14 compound that is in Phase III and let's say
15 has a 60% chance of getting approved, with
16 the same potential royalties, the investment
17 you would need to make for the compound in
18 earlier stages would be lower because it
19 would be discounted by the probability of
20 success of that drug, correct?

21 MR. DAVIS: Objection.

22 A. If you were looking for the same rate of
23 return?

24 Q. Yes.

- 1 A. Let me just see if I understand the question?
- 2 Q. Okay.
- 3 A. So two compounds, you're going to get the
- 4 same -- at the end, you're going to get the
- 5 same; and at the same time, you're going to
- 6 get the same royalty?
- 7 Q. Assuming that they are successful, right.
- 8 A. Right. So in order to -- yes, if I understand
- 9 the question correctly, to get the same return
- 10 on two compounds where you're going to get the
- 11 same result at the same time but one is an
- 12 earlier stage and may have a higher
- 13 probability -- have a lower probability of
- 14 getting approved versus a later stage that
- 15 will have a higher probability of approved,
- 16 I believe in the map there you would have to
- 17 make a lower investment.
- 18 Q. And to put it another way, when you're
- 19 figuring out what Hancock is willing to
- 20 invest with respect to any particular
- 21 compound, you would in some way or another
- 22 discount the value of that compound by the
- 23 probability that it's going to get to
- 24 market, correct?

1 A. We would, in evaluating our investment, we
2 would look at probabilities of being approved
3 in looking at the compounds.

4 Q. And that's a way of determining how much you
5 think the compound is worth in terms of an
6 investment; in other words, that's why you're
7 doing it?

8 A. It's a factor.

9 Q. Okay. Now, so at some stage you got a
10 specific basket of compounds that you and
11 Abbott had discussed, is that right; that
12 was made known to you, that you and Abbott
13 had discussed?

14 A. Yes. At some point, I believe, in the first
15 half of 2000 we began to talk about a
16 specific basket of compounds.

17 Q. And what information did you get about those
18 compounds at that point?

19 A. At the first --

20 Q. Yeah.

21 A. I don't remember.

22 Q. From Abbott?

23 A. Right. I don't remember at the first
24 presentation of those compounds what we got.

1 Q. Well, at some point when did you start doing
2 financial evaluations of the potential
3 investment by Hancock into these compounds?

4 A. I'm not certain about the specific timing,
5 but my belief is that we were doing financial
6 modeling maybe in the first quarter of 2000
7 as it related to the concept of investing in
8 a portfolio of compounds.

9 Q. And as of the time you began doing that
10 financial modeling, what information did you
11 have about the compounds from Abbott?

12 A. Initially, I may not have had any about the
13 specific compounds; it may have been just
14 general financial modeling.

15 Q. So you think you constructed a model that
16 was not related to the particular compounds,
17 but just had general criteria? You can
18 respond -- from which -- actually, I didn't
19 finish the question -- general criteria from
20 which you could then plug in any specific
21 information regarding the compounds to run
22 the model?

23 A. I generally remember looking at financial
24 models as it related to an unspecific portfolio

1 of compounds. I don't know if we then used
2 that exact model to plug in the specific
3 compounds that we -- that were later
4 identified by Abbott.

5 Q. All right. Now, for an investment of this
6 type, what was the approval process at John
7 Hancock in 2000/2001?

8 A. We would bring the transaction to the bond
9 investment committee, and then we would bring
10 the transaction to the committee of finance.

11 Q. Who was on the bond investment committee in
12 2000?

13 A. I don't remember. There may have been 10 to
14 15 people.

15 Q. Now, what were the requirements that you had
16 to meet in order to attain approval from the
17 bond committee for a particular investment?

18 A. Generally, we would present a report of the
19 transaction that generally provided that the
20 terms of the transaction and the financial
21 returns of the transaction to the bond
22 investment committee, and then generally we
23 would make an oral presentation to the bond
24 investment committee.

1 Q. Was it required that you present a calculation
2 of the expected return on investment in
3 connection with a transaction of this nature?

4 A. I think generally speaking we would have to
5 provide what we thought the expected return
6 was.

7 Q. And in connection with a presentation to the
8 bond committee, was there any target rate of
9 return that was expected before an investment
10 would be approved?

11 A. As it relates to this transaction?

12 Q. Well, let's start more generally.

13 A. I believe in most, if not all, transactions
14 you would be required to show what the return
15 on the transaction was or what the expected
16 return on the transaction was and some
17 transactions may -- I don't remember at the
18 bond investment committee having a specific
19 minimum required return before the transaction
20 was approved.

21 Q. So, for example, there was a range of expected
22 returns that might be satisfactory to the bond
23 investment committee?

24 MR. DAVIS: Objection.

1 A. This is generally speaking, I believe that
2 the transaction was presented -- transactions
3 are presented and the investment committee
4 decided to approve or not approve based on
5 the material that was provided and the
6 return that was provided.

7 Q. For a transaction like, let's say for this
8 transaction, let's get specific now, did
9 you have an understanding that there was a
10 minimum rate of return that you would have
11 to demonstrate in order to get the transaction
12 approved by the bond investment committee?

13 A. I don't remember if there was a minimum return
14 that we expected for this transaction over the
15 life of the transaction.

16 Q. I guess what I'm getting at is: you
17 calculated, and we'll be getting into the
18 details of that, an expected rate of return
19 for this transaction; did you have an
20 understanding going into the bond investment
21 committee, that if you had calculated a lower
22 expected rate of return, it could still have
23 been approved by the bond investment
24 committee --

1 MR. DAVIS: Objection.

2 Q. -- based on the existing standards for
3 investments of this type at John Hancock at
4 that time?

5 MR. DAVIS: Objection.

6 A. I don't remember if there was or what was
7 the minimum return as it related to this
8 specific transaction that the bond
9 investment committee would not approve it,
10 but it would certainly be possible that if
11 the return was lower, that it might not been
12 approved.

13 Q. But sitting here today, you don't have a
14 recollection of any specific minimum floor
15 or target at that had to be met before the
16 committee would approve, right?

17 MR. DAVIS: Objection. You can respond.

18 A. Yeah, I'm trying to think in terms of if -- as
19 I had mentioned earlier, if the expected return
20 was below a treasury yield, I would expect --
21 generally expect that this investment would
22 not be approved.

23 You can look at just market returns for
24 other transactions and could potentially come

1 up with a return that the bond investment
2 committee would say: We don't want to
3 approve this transaction.

4 Q. But other than that, you're not aware of
5 any guidelines or minimums or floors or
6 anything of that nature?

7 A. As it relates to that specific transaction,
8 I don't remember if there was a minimum
9 return that we were going to target for
10 this particular transaction.

11 MR. WEINBERGER: Why don't we take a
12 short break.

13 THE WITNESS: Okay.

14 THE VIDEOGRAPHER: Going off the record,
15 the time is 10:53.

16 (Whereupon, a brief recess convened.)

17 THE VIDEOGRAPHER: Back on the record,
18 the time is 11:03.

19 MR. WEINBERGER: Can we mark this
20 exhibit as the next in order, please?

21 (Deposition Exhibit No. 10
22 marked for Identification.)

23 MR. WEINBERGER: Are we back on the
24 record?

1 THE VIDEOGRAPHER: Yeah.

2 Q. Okay. So I've handed you Exhibit 10.

3 Just for the sake of completeness, is this

4 the purchase recommendation for the Pharma

5 Marketing transaction that you discussed in

6 your testimony a few minutes ago?

7 A. Yes.

8 Q. All right. Now, let me show you another

9 document and I'd ask the reporter to mark

10 this as Exhibit 11.

11 (Deposition Exhibit No. 11

12 marked for Identification.)

13 Q. Is this an e-mail that you wrote to

14 Mr. Deemer on or about May 2, 2000?

15 A. Exhibit 11?

16 Q. Yes.

17 A. Yes.

18 Q. Now, it refers to "our commitment to meeting

19 Abbott's time frame for a mutual go/no go

20 decision." Was there a time frame that

21 Abbott gave you for a go/no go decision?

22 A. I don't remember at this time.

23 Q. In fact, the transaction didn't get done

24 until finally until March 2001, right?

1 A. The transaction that we did with Abbott was
2 completed in March of 2001.

3 Q. From your point of view, why did it take so
4 much time?

5 MR. DAVIS: Objection. You can respond.

6 A. There may be a number of reasons. One reason
7 is that one of the compounds in the portfolio,
8 Abbott ceased development activities on that
9 in the fall of 2000; and another reason that
10 I recall is that Abbott at some point, and,
11 again, it may have been the fall or winter of
12 2000, when we acquired another company called
13 Knoll Pharmaceuticals, and I was -- I believe
14 I was told at the time that, that the
15 transaction was put on hold relating to
16 that transaction.

17 There may have been other reasons, but
18 those are two that I remember.

19 Q. From Hancock's point of view, in other words,
20 things that happened at Hancock that you
21 believed led to a later consummation of the
22 transaction other than originally contemplated?

23 MR. DAVIS: Other that's what he's
24 describing?

1 MR. DAVIS: Objection. You can respond.

2 A. Well, from this e-mail, I don't remember the

3 time frame that -- if there was a time frame;

4 although, I seem to indicate that, but what

5 the time frame to close the transaction was,

6 so I don't know that I can answer your

7 question anymore than: I certainly remember

8 a compound being delayed -- I'm sorry, being

9 ceased; it delayed the transaction as we

10 worked to try and restructure the transaction,

11 and then I do specifically remember the

12 discussion about Knoll Pharmaceuticals.

13 Q. Now, the discussion about Knoll, was that

14 because of the acquisition, they had to --

15 strike that.

16 What was told to you about why the

17 Knoll acquisition would cause a delay in

18 the consummation of the transaction with

19 John Hancock?

20 A. I don't remember specifically other than,

21 and I believe it was Mr. Deemer, talking

22 to Mr. Deemer about Abbott's announced

23 acquisition of Knoll; and I believe that he

24 told me that, that it was going to delay

1 the transaction.

2 Q. Did he tell you that Abbott had to look at

3 the -- what it had acquired with Knoll to

4 determine if its priorities in terms of

5 compounds had changed in any way?

6 A. I don't remember. He may have, but I don't

7 remember that.

8 Q. Now, with respect to the compound that was

9 ABT-980, correct?

10 A. Yes.

11 Q. And so Hancock then proposed that the deal

12 be restructured in some way, right?

13 A. Well, if there was going to be a transaction,

14 we did need to restructure the transaction

15 based on ABT-980 being, ceased development.

16 Q. And the fact that ABT -- that Abbott was

17 ceasing development of 980 was something that

18 you were told by Abbott in the negotiations,

19 correct?

20 A. I was told by Abbott that they had -- that

21 they were, initially, that they were

22 thinking about ceasing it, and then that

23 they had ceased it.

24 Q. So you were told that they were thinking

1 about ceasing it before they actually ceased

2 development of it?

3 MR. DAVIS: Objection. You can respond.

4 A. I don't know if Abbott had ceased it or not,

5 but I -- at the time I got the first

6 communication my understanding was that

7 they were thinking about ceasing it and then

8 later followed by, "We have ceased it."

9 Q. Okay. So all I'm trying to establish is that

10 you were told what Abbott's thinking -- you

11 were told that Abbott was thinking about

12 ceasing it before you understood that they

13 had actually ceased it, correct?

14 A. That's correct.

15 Q. So from your point of view, was it Mr. Deemer

16 who told you that?

17 A. I believe so.

18 Q. He was not attempting to hide anything with

19 respect to Abbott's thinking on pursuing 980

20 or not to your knowledge, correct?

21 MR. DAVIS: Objection.

22 A. I don't know if he was or not. He, in at

23 least two communications he did tell me that

24 they were thinking about ceasing it --

1 way?

2 A. I don't know that I was willing to pursue

3 one less compound in the structure -- in the

4 basket.

5 Q. But didn't John Hancock propose changes to

6 the structure of the agreement by which it

7 could go ahead with one less drug?

8 MR. DAVIS: Objection, asked and answered.

9 You can respond.

10 A. I can't recall if we, if we proposed a change

11 in the structure with one less compound and

12 what the nature of that would be.

13 Q. Okay. Going back to the e-mail, did you meet

14 in May 2000 with the Chairman, CEO, and Chief

15 Investment Officer of Hancock to discuss this

16 potential investment?

17 A. I believe I did.

18 Q. And can you tell me what transpired in that

19 discussion -- well, let me first ask you:

20 did you prepare any written materials --

21 A. Yes.

22 Q. -- for that meeting?

23 A. Yes.

24

1 (Deposition Exhibit No. 12

2 marked for Identification.)

3 Q. I've handed you Exhibit 12, and let me
4 represent to you this should have been a
5 cover e-mail or little memo attaching
6 indicating this was prepared for a May
7 meeting and it got omitted from the copy.

8 MR. DAVIS: It was prepared for --

9 Q. For a meeting in May. It was prepared in
10 May 2000, but, unfortunately, it did not get
11 attached to the copies that were reproduced.

12 But looking at it, can you tell me
13 whether this looks like the analysis you
14 prepared for your meeting in May?

15 MR. DAVIS: Objection. You can respond.

16 A. It does look like that, yes.

17 Q. And at this point in time for purposes of
18 this analysis, was Hancock looking at the
19 likelihood that the compounds would get
20 approved as part of its investment evaluation?

21 MR. DAVIS: Objection.

22 A. Yes.

23 Q. And at this point in time was that analysis
24 based upon a study by Dr. DiMasi at the Tufts

1 Center?

2 A. The probability of success appears to be at

3 that time based on Dr. DiMasi's study.

4 Q. Okay. The following statement appears in

5 the analysis on the second page, underlined:

6 "During the past four years we have evaluated

7 many equity investments in emerging

8 pharmaceutical and medical devices."

9 Let me stop there. Was that a correct

10 statement?

11 A. I believe so.

12 Q. "We have completed several transactions," were

13 those the transactions that we looked at

14 earlier today?

15 A. Yes.

16 Q. You then say, "During that period we have

17 established relationships with reliable

18 scientific advisors." Is that correct?

19 A. Yes.

20 Q. Was that a correct statement?

21 A. Yes.

22 Q. You had reliable scientific advisors

23 available to you to evaluate equity

24 investments in emerging pharmaceutical

1 companies, right?

2 MR. DAVIS: Objection. You may respond.

3 A. Well, the sentence just says that we have

4 relationships with reliable scientific

5 advisors.

6 Q. Right, but I'm asking you if you, in fact,

7 had reliable scientific advisors that would

8 enable you to evaluate equity investments in

9 emerging pharmaceutical and medical device

10 companies; is that what you were saying here

11 in substance?

12 A. I think what I'm saying is that we made a

13 number of investments; and either through

14 that process or otherwise, we established

15 relationships with scientific advisors.

16 Q. What was the relevance of this to this

17 transaction, to this report?

18 A. I go onto say that we will engage a scientific

19 consultant to evaluate compounds in the

20 portfolio.

21 Q. Now, at the bottom of the page you say you've

22 developed a spreadsheet that incorporates

23 multiple drug compounds and their specific

24 probability of success tied to launch and

1 expected sales pattern.

2 Can you tell me, do you see that?

3 A. Yes.

4 Q. Do you recall developing that spreadsheet?

5 A. Yes.

6 Q. Can you generally explain to me the
7 methodology that was used to prepare this
8 analysis?

9 A. I'm not certain at this particular point in
10 time which spreadsheet I was referring to.

11 Q. But, in general, I'm just interested in the
12 methodology, not the particular numbers?

13 A. Right, and -- but at this point in time
14 I'm not sure of the methodology of the
15 spreadsheet that I was referring to.

16 Q. But, generally, you would have an individual
17 likelihood of success with respect to each
18 compound, correct?

19 A. Yes.

20 Q. And that was used to discount the value of
21 that compound, right?

22 A. It was used to project the probably sales
23 for that compound.

24 Q. So it would be used to discount the probable

1 sales and, hence, the royalty income that

2 Hancock might achieve, right?

3 A. No, I think --

4 MR. DAVIS: Objection. You can respond.

5 A. -- it was used to calculate the expected sales

6 for that compound.

7 Q. Maybe I should get it this way, how did you

8 use the probability of success to calculate

9 the sales of the compound?

10 A. I think the spreadsheet would apply the

11 probability of success to a peak sales for

12 the compound, which was further modified by

13 when no sales were expected to occur in any

14 given year.

15 Q. Okay. And that was done for each individual

16 compound, correct?

17 A. It was either done for each individual

18 compound or for a subset of compounds

19 (Deposition Exhibit No. 13

20 marked for Identification.)

21 Q. Now, let me explain what I've handed you.

22 I've handed you something from 2002. We

23 were told that preparing the models for

24 the transaction: basically, you go in, you

1 take the model that exists, and plug in any
2 new numbers that, that were required based
3 on new information. So, therefore, we
4 didn't have versions of the model dating
5 back to when it was first done. Does that
6 comport with your recollection?

7 MR. DAVIS: Objection. You can respond.

8 Q. In other words, there's a model here attached
9 to the first page with respect to the added
10 basket?

11 A. Right.

12 Q. And the question I'm asking is: is it correct
13 that when you did an update with respect to
14 these models, you would basically plug in new
15 numbers or write over the existing models so
16 that you didn't have the older version saved?

17 A. There are a lot of older versions that were
18 not saved. I don't know -- are you talking
19 pre transaction or post transaction?

20 Q. Well, both. Let's start with pre transaction
21 leading up to the transaction.

22 A. Right. I don't know if we have more than one
23 electronic model.

24 Q. Okay. So looking at this exhibit, can you

1 tell me whether this is putting aside the
2 numbers, the electronic model that you used to
3 model the transaction at least in terms of the
4 methodology?

5 MR. DAVIS: Objection. You can respond.

6 A. I believe it is.

7 Q. Okay, and am I recollecting that each of the
8 compounds that were in the basket is separately
9 included on this model?

10 A. Each compound is separately mentioned.

11 Q. And there's a separate probability attached to
12 each compound, correct?

13 A. In this particular spreadsheet the MMPI and
14 the FTI were viewed as a basket --

15 Q. Okay.

16 A. -- and I believe all the others are separate.

17 Q. Okay. And the purpose of this particular
18 model was to determine an updated cash flow
19 projection and the current internal expect
20 rate of return for the investment as of

21 September 30, 2002, correct?

22 A. Yes.

23 Q. And as of September 2002, Abbott had informed
24 you that two of the compounds were no longer

- 1 going to be developed specifically CCM and
- 2 the MMP, is that right?
- 3 MR. DAVIS: 2002, you said?
- 4 Q. As of 2002, it was before 2002, but by 2002
- 5 Abbott had informed -- you knew that those
- 6 two compounds were not going to be continued?
- 7 A. Right.
- 8 Q. Right? And the way you then adjusted the
- 9 model to determine now the new cash flow and
- 10 consequent internal rate of return was to
- 11 change the probability of success for those
- 12 two drugs to zero, is that right?
- 13 MR. DAVIS: Objection. You can respond.
- 14 A. I'm not sure if FTI was canceled at that point
- 15 as well.
- 16 Q. Okay. But that's how you would do this, if a
- 17 drug was dropped, you would just change the
- 18 probability of success to zero, and then there
- 19 would be no cash flow or royalties -- future
- 20 royalties associated with that compound?
- 21 MR. DAVIS: Objection. You can respond.
- 22 Q. Correct?
- 23 MR. DAVIS: Objection. You can respond.
- 24 A. If Abbott ceased development of the compound,

1 and it wasn't being developed by anyone else --

2 Q. Correct.

3 A. -- I would drop it to zero.

4 Q. If it was being developed by someone else,

5 then you'd just make a projection of the

6 potential payments you might get as a result

7 of that outlicensing, correct?

8 A. I might do that, right.

9 Q. Okay. But if they ceased development it was

10 not being outlicensed, you'd simply change

11 the probability to zero; and you could run

12 the model and determine the new rate of

13 return for Hancock, correct?

14 A. Yes.

15 Q. And that's the way you did it when you were

16 reporting internally in 2002?

17 A. As it relates to if a compound was ceased and

18 no longer in development?

19 Q. Yes.

20 A. Yes.

21 Q. All right, let's go back to 2000. Sorry to

22 jump you around a little bit, but I think we

23 were talking about the meeting that you had

24 with the Chairman and CEO and Chief Investment

1 Officer. What do you -- and we were looking
2 at the analysis that you did; what transpired
3 during the meeting?

4 A. I recall discussing the transaction and
5 generally recall answering questions and not
6 being -- not being told to stop working on the
7 transaction.

8 Q. So you can recall whether they indicated that
9 anything more than you were not about there
10 level of enthusiasm than you shouldn't stop
11 working on it?

12 A. Not that I remember.

13 Q. Now, I meant to ask you about that model. You
14 can turn to the exhibit. What number is that?

15 A. 13.

16 Q. 13? Does this model reflect what's called a
17 Monte Carlo simulation?

18 A. Yes.

19 Q. And can you tell me what a Monte Carlo
20 simulation is?

21 A. I don't know the technical definition, but
22 generally it's running scenarios multiple
23 times to get an expected return.

24 Q. Can you be anymore specific than that what is

1 the scenario you're running multiple times?

2 A. The scenarios would be running the probability

3 of success, the peak sales, the launch period,

4 and then the expected sales.

5 Q. And you'd do that for each drug?

6 MR. DAVIS: Objection. You can respond.

7 A. Each drug is included in the model.

8 Q. With a separate probability separate expected

9 peak sales?

10 A. Yes.

11 Q. A separate line for each one?

12 A. Except in this particular model, MMPI and FTI

13 are shown --

14 Q. Okay.

15 A. -- in that column.

16 Q. And why did you put them together, MMPI and

17 FTI?

18 A. I'm not sure in this particular model if it

19 was shorthand or not in terms of they were

20 both terminated at that particular point in

21 time.

22 I do remember at an earlier stage

23 viewing the compounds as a basket of

24 compounds that had a probability of getting

1 approved.

2 Q. And you mean those two compounds, the MMPI

3 and the FTI; is that what you meant in your

4 last answer?

5 A. In this case.

6 Q. Yes?

7 A. Yes.

8 Q. Next in order.

9 (Deposition Exhibit No. 14

10 marked for Identification.)

11 Q. Is Exhibit 14 an e-mail you sent to Mr. Hartz

12 in September -- on September 19, 2000, with a

13 memo or a document describing how you were

14 modeling the expect returns and expected loss

15 in the Abbott transaction?

16 A. I believe Mr. Hearts sent this to me.

17 Q. I see. So did he -- was he responsible for

18 preparing the models initially for the basket?

19 MR. DAVIS: Objection. You can respond.

20 A. No.

21 Q. That was your responsibility?

22 MR. DAVIS: Objection. You can respond.

23 A. I was certainly responsible for preparing

24 models, and Mr. Hartz worked with me on this

1 transaction.

2 Q. So is this document a reaction to something

3 that you did his comments?

4 A. I'm not sure I understand the question.

5 Q. Okay. The e-mail, and I understand correctly,

6 the e-mail is from Mr. Hartz to you; the

7 question I have is whether this document is

8 something you prepared in the first instance

9 or he prepared or either of you prepared?

10 A. I believe that, that this is a document that

11 Mr. Hartz prepared. Although, he may have

12 used information that I had provided to him;

13 it's hard for me to figure that out.

14 Q. All right. Now, the document states that he

15 calculates -- someone calculates a return

16 based on the scenario that only one drug is

17 successful.

18 He says: "The return on our simplified

19 model was 8% on the entire investment. This

20 is approximately 200 bps" -- is that basis

21 points?

22 A. Yes, bps is basis points.

23 Q. -- "over treasuries," so was that your

24 recollection, that at this time you were

1 calculating if only one drug was successful,
2 your return would be approximately 200 basis
3 points over treasuries?

4 A. My understanding of what this paragraph is,
5 is just a general analysis of a portfolio of
6 compounds or it could be a portfolio of
7 anything.

8 I don't believe that this was, at least
9 as it related to this specific paragraph, the
10 first paragraph, that it was related to the
11 Abbott portfolio that we were discussing.

12 Q. All right. So in the first paragraph he's
13 assuming a probability of success of each
14 drug at 50%, is that right? So that's the
15 basis for your statement, correct?

16 MR. DAVIS: Objection. You can respond.

17 A. Yes, I think that's one basis. I think also,
18 I think he only has six.

19 Q. All right then in --

20 A. I was just going to finish my answer.

21 Q. Go ahead. It's your right to finish your
22 answer so if you haven't finished an answer
23 to my question, it's not intentional, just
24 tell me and I'll let you finish.

1 A. All I was going to say is I think he has

2 six compounds in here.

3 Q. All right. In the second paragraph he talks

4 about reducing the probabilities in the DiMasi

5 study by 10% and then he states: While we

6 believe Abbott's track record is at least as

7 good as average, the haircut introduces a

8 reasonable level of conservatism; do you have

9 an understanding of what he was saying there?

10 MR. DAVIS: Objection. You can respond.

11 A. I think what Mr. Hartz is saying is that is

12 that the model -- that in this model he used

13 the probabilities or this actually may be

14 referring to my model at this particular point

15 in time, I'm not certain -- I don't know

16 whose model he's referring to at this

17 particular point in time, but he's taken the

18 DiMasi study and reducing the probabilities

19 by 10%, and but then clarifying that it was

20 our belief that Abbott's was as good as

21 average ... so that might be the 10% here,

22 that might be conservative.

23 Q. Okay. Could you turn to the --

24 THE VIDEOGRAPHER: One minute.

1 here and I have -- I don't know that that's not
2 a true statement.

3 Q. And the same statement was contained in the
4 recommendation memoranda that you put together
5 on this investment submitted to the bond
6 investment committee and the committee of
7 finance, correct?

8 A. I don't have the recommendation in front of
9 me.

10 Q. All right. We'll look at it, but assuming
11 it's in there, you would expect that the
12 statement is correct; wouldn't you?

13 MR. DAVIS: Objection. You can respond.

14 A. I would attempt not to put something knowingly
15 incorrect in the report.

16 Q. Okay. So with that segway, I'll get the
17 report. Just a second for this.

18 (Deposition Exhibit No. 15
19 marked for Identification.)

20 Q. All right. This is Exhibit 15, correct?

21 A. Yes.

22 Q. Now, is Exhibit 15 a copy of purchase
23 recommendation memorandum in connection with
24 the Abbott investment?

1 A. Yes.

2 Q. Is this document known as a yellow report at

3 Hancock?

4 A. Yes.

5 Q. And this is required to be submitted to the

6 bond investment committee and the committee

7 of finance in order to get a transaction

8 approved, is that right?

9 A. At this time, it was.

10 Q. Right. And this was authored by you and

11 Mr. Hartz, is that right?

12 A. Yes.

13 Q. When you presented the transaction to the

14 bond investment committee, was there any

15 other written material besides this report

16 that was used?

17 A. I don't remember anything.

18 Q. When you presented it to the committee of

19 finance, was there any additional written

20 material?

21 A. I'm sorry, say that question one more time?

22 Q. When you presented the transaction to the

23 committee of finance, was there any additional

24 written material you used besides this

1 presentation?

2 A. I believe Mr. Nastou presented it to the

3 committee of finance.

4 Q. I see. Well, when he presented it, do you

5 recall, did he present this yellow memorandum,

6 this yellow -- is that what it's called, a

7 yellow memorandum?

8 A. Yellow report.

9 Q. Yellow report, did he present this yellow

10 report?

11 A. Yes.

12 Q. And did he present any other written material

13 that you were aware of?

14 A. Not that I can recall.

15 Q. I want to ask you some questions about this;

16 and, mainly, focusing on the financial analysis,

17 and then just so you're aware, we may come

18 back to this with respect to other issues

19 later on.

20 Right now I want to focus pretty much

21 right now on the financial analysis. On the

22 bottom of the first page the statement appears,

23 basically, that the expected return for the

24 transaction was 17.5%; is that your

1 recollection?

2 A. Yes.

3 Q. And that's over a 15-year time period?

4 A. Yes.

5 MR. DAVIS: You're not saying total

6 over the 15-year time period an annual rate

7 of return, correct?

8 Q. I don't understand. The average return

9 says --

10 MR. DAVIS: The average annual rate of

11 return?

12 Q. -- it's approximately 17.5% over 15 years?

13 A. Well --

14 MR. DAVIS: Objection. You can respond.

15 A. -- my understanding is that it was a 17.5%

16 annual return.

17 Q. Now, I want to explore how you arrived at

18 that. First, let me direct you to Page 7

19 of the document; and there's a heading:

20 "Program Compounds."

21 Was this the list of program compounds

22 that at the time this memorandum was submitted

23 to the bond investment committee that were

24 being considered for this basket?

1 A. Yes.

2 Q. And I think you indicated ultimately that

3 the 980 was dropped?

4 A. Yes.

5 Q. And am I correct that ultimately another

6 cancer drug, ABT-510 was added?

7 A. ABT-510 was added.

8 Q. Now, in order to arrive at the investment,

9 the expected internal rate of return, you

10 needed to estimate the sales for each

11 compound, correct?

12 A. Yes.

13 Q. And that's because the agreement provided

14 for a royalty on the part of Hancock under

15 certain circumstances, correct?

16 A. Yes.

17 Q. And that royalty, you also needed to know

18 potential sales would be achieved by the

19 entire basket over a period of time because

20 there was a cap on the total royalties --

21 total sales that you would get royalties on

22 based on the entire basket, right?

23 A. I don't believe that's correct.

24 Q. Well, there was peak sales after which there

1 four-year period, Abbott will commit two

2 times John Hancock's investment for these

3 compounds."

4 Was that your understanding of the

5 transaction that was being discussed?

6 A. My understanding was that Abbott would commit

7 a minimum of two times.

8 Q. Well, it says here: "Abbott will commit two

9 times John Hancock's investment for these

10 compounds," was that your understanding?

11 MR. DAVIS: Objection, asked and

12 answered. You may respond again.

13 A. That is what the -- that description says, my

14 understanding is it was a minimum of two times.

15 Q. Okay, but you intended to present an accurate

16 summary of the transaction to the bond

17 investment committee and the committee of

18 finance at John Hancock; didn't you?

19 A. Yes.

20 Q. And this document was not something you just

21 threw out there; you carefully worked on this

22 over a several month period, didn't you?

23 A. I don't know the time frame that I worked on

24 this document.

1 A. I believe it's a specific pain category.

2 Q. Right. There's no column there for cancer

3 that I can see, do you see one?

4 A. No.

5 Q. Then, over on the next page the document

6 states: "Each of the drugs has a different

7 probability of success depending on how far

8 along each is in the approval process in a

9 different revenue profile."

10 Now, you agree with that statement;

11 don't you?

12 MR. DAVIS: I'm sorry, where are you?

13 Q. The top of Page 13, the first full paragraph,

14 second sentence.

15 MR. DAVIS: Thank you.

16 A. Yes.

17 Q. Then, that talks about a spreadsheet model

18 running at 500 times; that's the Monte Carlo

19 simulation, correct?

20 A. Yes.

21 Q. Now, I see a chart here on John Hancock

22 probability of approval with various numbers;

23 can you tell me where these numbers came from?

24 A. It was based on my analysis of using

1 Dr. DiMasi's study. There were other studies
2 that we also looked to, and general industry
3 knowledge for the compounds and the general --
4 the phase that they were in and the general
5 category that they were in.

6 Q. Now, I looked -- looking at MMPI, which is
7 listed as Phase I, you have a probability of
8 10%; is that your best judgment based on
9 the work that you did?

10 MR. DAVIS: Objection. You may respond.

11 Q. Was that your best judgment as to the
12 probability of approval based on the work
13 that you did?

14 A. Yes.

15 Q. Now, under Phase I DiMasi has a range of
16 numbers for various categories. I think none
17 of them including cancer, which totals 23%;
18 why did you feel that the probability of
19 approval for MMPI was lower than what DiMasi
20 was suggesting for Phase I compounds generally?

21 A. I don't remember specifically how I tied that
22 to Dr. DiMasi's study or whether I generally
23 used Dr. DiMasi's study and other studies or
24 was just being conservative.

1 in time below which you would not recommend a
2 transaction like this?

3 MR. DAVIS: Objection.

4 A. I don't remember a specific number that we
5 would go below. I remember looking at a
6 number of similar transactions and getting
7 a sense for what a fair expected return was
8 and believed that this was in that range.

9 Q. Is that referred to in the memo?

10 A. Yes.

11 Q. Where?

12 A. On Page 13.

13 Q. You're referring to the paragraph: "Analysis
14 of Return"?

15 A. Yes. I think it's two paragraphs, but, yes.

16 Q. So the Elan Pharmaceuticals transaction had an
17 expect five year IRR of 13%, correct?

18 A. Yes.

19 Q. And you recommended that, is that right?

20 A. Yes.

21 Q. Now, let's talk about the sales estimates
22 for a minute. What numbers did you use to
23 determine the level of peak sales, which was
24 the term you used to calculate the projected

1 royalty?

2 A. For BPH, I used 600 million dollars; for

3 Ketolide, I used 800 million dollars.

4 Q. I'm sorry, I don't mean to interrupt you,

5 but you don't need to do that because I can

6 see that. I'm not interested in that, and it

7 was my fault; my question was poor.

8 What was the source of the peak sales

9 numbers that you used in the chart on Page 13;

10 how did you arrive at those numbers?

11 A. I think there were a number of things that we

12 looked at to come up with the peak sales. I

13 mean, we were initially or at some point

14 provided with Abbott's expectations for the

15 compounds.

16 We looked at industry data for either

17 similar compounds or compounds being developed

18 in terms of what the market expected for the

19 compounds. There may have been other -- other

20 things that we did to come up with the peak

21 sales, but those are the two that I remember.

22 Q. What industry data do you remember looking at?

23 A. I remember looking at many analysts -- either

24 reports from pharmaceuticals company as to

1 what their specific sales for compounds were,
2 or analysts' reports as to what the company's
3 sales for compounds were, or analysts' reports
4 for what expected sales for either specific
5 compounds or compounds in disease categories
6 were.

7 Q. Now, according to the yellow report, the level
8 of peak sales that you used in these estimates
9 was significantly below Abbott's level,
10 approximately 25%. Do you see that, on
11 page 12: Sales Estimates?

12 A. I see that category. I'm sorry, I see that,
13 in general, our level of peak sales is
14 significantly below Abbott's approximately 25%,
15 yes.

16 Q. Why did you reduce the level of Abbott's
17 project sales by 25% -- well, let me strike
18 that.

19 Let me first ask you: did you take
20 Abbott's number and then reduce it by 25%
21 or build your own number and then observe
22 that it was 25% below Abbott's?

23 A. My recollection is that we built our own
24 number, but we certainly looked at Abbott's

1 of how to determine what the market would
2 expect in a return from a BA2 rating?

3 MR. DAVIS: Objection. You may respond.

4 A. And just to be clear, it doesn't necessarily
5 need to be tied to just the rating
6 specifically, it can be tied to the structure
7 of the transaction, the industry the company's
8 in, et cetera.

9 Q. I'm going to ask you to look at the Monte
10 Carlo simulation document which was exhibit --
11 I don't have the number, do you? Do you have
12 it?

13 A. 13.

14 Q. Right, 13. I would just like to go through
15 the model just to make sure that I understand
16 how it's done. So could you explain the column
17 headers for me?

18 A. In the top left, we have year, sales two,
19 sales three, and then sales four and sales
20 five. "Year" is the year after a product is
21 launched; Sales 2 was a sales curve, and
22 Sales 3 was a different sales curve.
23 Then, below that we would have the rows
24 that would indicate drug, probability, peak

1 sales, launch, and sales model, and the column
2 headings for the columns related to the
3 specific compounds in the basket; and then
4 you would have the associated probability
5 peak sales launch and sales model associated
6 with those compounds.

7 Q. This is now across, going across?

8 A. Sorry, yep.

9 Q. Okay.

10 A. And then below, so but then when you're in a
11 column, you would have then an indicator as
12 to whether the drug was successful or not.

13 Q. That's the probability?

14 A. Yeah.

15 MR. DAVIS: Objection. Go ahead, you can
16 answer that.

17 A. It's a zero or a one so whether the drug was
18 approved or not approved based on the
19 probability. It was, I believe, in the model
20 using like a random number generator and I
21 believe that that goes down 500 times -- yep,
22 it goes down 500 times, and then the columns
23 to the right of that are applying the sales
24 the sales curve to the peak sales to the

1 Q. Then, I guess my question is: in the
2 following quarter do you know if an adjustment
3 was made to reflect any changes in the
4 expected rate of return?

5 MR. DAVIS: Objection. You may respond.

6 A. I'm not sure if we did. I believe for
7 conservatism after we did the transaction we
8 actually used a lower rate of return in our
9 model, and so I don't know if the return went
10 below that rate of return.

11 Q. Sorry. I'm not sure I understood that answer.

12 You're saying that although your report said
13 17-and-a-half, you actually used a lower rate
14 of return internally?

15 A. I believe initially for conservatism we did
16 use a lower rate of return.

17 Q. What rate was that?

18 A. I don't know exactly what it was.

19 Q. But what are you basing your statement on,
20 that you're using a lower rate of return?

21 A. That's just my general recollection.

22 Q. And you don't recall what it was?

23 A. I don't.

24 Q. Was it in the range of 13%?

1 Now, let me stop right there. What
2 representations and expectations were you
3 referring to?

4 A. I believe that I was referring to where the
5 compounds were in clinical trial. I may have
6 also been referring to what expected sales
7 were, at least generally speaking, and I
8 think those were the primary things.

9 Q. Weren't you referring to Abbott's descriptive
10 memoranda with respect to the products, at
11 least in part?

12 A. In part. At least in part.

13 Q. And you say: "Although, we have scaled back
14 sales projections significantly," now, we
15 discussed that a little before, but does this
16 refresh your recollection as to whether you
17 took their projections and just scaled them
18 back, or you built up your own and it happened
19 to be that?

20 A. You know, again, I believe that we did our
21 own analysis of what the expected sales were,
22 but we certainly used the knowledge of what
23 Abbott thought of the compounds as well.

24 Q. Now, you then go on to describe scientific

1 and market diligence that you performed,

2 correct?

3 A. Yes.

4 Q. And why did you engage in scientific and

5 market diligence?

6 A. The reason why we did that was to determine

7 the probabilities of success, where they were

8 in terms of clinical trials, and understanding

9 where similar compounds were in terms of

10 potential for failure and the potential for

11 success.

12 Q. Why didn't you just go with what Abbott was

13 telling you?

14 A. We did rely on what Abbott was telling us, but

15 we also did our own due diligence.

16 Q. Why, that's the question.

17 A. We thought it was a prudent thing to do.

18 Q. When you refer in the next sentence to the

19 -- two sentences after that to "the

20 material provided by Abbott," is that the

21 descriptive memoranda?

22 MR. DAVIS: Objection. You may respond.

23 A. I believe that it certainly contains the

24 descriptive memoranda. There may have been

1 other things that they provided us.

2 Q. What other material do you recall they
3 provided?

4 A. I believe that they provided us with -- I
5 can't remember the headings, but a research
6 plan for each compound; and that there were
7 other documents that they provided, but I
8 don't remember specifically what they were.

9 Q. Now, you refer in the memo to "engaging
10 Dr. Len Klotz to search the major drug and
11 medical databases for scientific reports of
12 program compounds and competitive class,"
13 do you recall when you engaged Dr. Klotz?

14 A. Possibly in the May, June, July time frame.

15 Q. And you also asked him to contact outside
16 experts to look at the -- to get information
17 about the compounds, correct?

18 A. Yes.

19 Q. You also asked him to come up with questions
20 and additional information that might be
21 needed from Abbott based upon his work his
22 literature search and his discussions with
23 experts with respect to the compounds, is
24 that right?

1 A. I don't know if I specifically asked him or

2 if that's something that came out of your

3 conversations about this, but he did do that.

4 Q. You'd worked with Dr. Klotz before?

5 A. Yes.

6 Q. You knew his qualifications?

7 A. Yes.

8 Q. You believed he was sufficiently knowledgeable

9 in the areas in question to assist you with

10 due diligence?

11 A. Yes.

12 Q. He was the principal scientific source of due

13 diligence for this transaction for Hancock,

14 wasn't he?

15 MR. DAVIS: Objection.

16 A. He was the consultant that we engaged. He

17 did reach out to others in the field to, to

18 discuss either the disease categories or the

19 particular compounds; and we also talked to

20 scientists in Abbott, so one of a number of

21 different sources.

22 Q. But he was the only independent scientific

23 consultant that you directly engaged, is that

24 right?

1 MR. DAVIS: Objection.

2 A. He's the only individual that we had an

3 engagement letter with, yes.

4 Q. Okay. Is there any other outside scientific

5 consultant that you talked to directly in

6 connection with this transaction?

7 MR. DAVIS: Objection. You're asking

8 whether he did himself, is this?

9 Q. Yeah. I understand that Dr. Klotz called

10 some people about these compounds, but I'm

11 asking about Hancock directly; is there any

12 other scientific -- outside scientific

13 consultant or other expert whom Hancock

14 talked to directly about this transaction?

15 A. Other than Abbott --

16 Q. Right.

17 A. -- scientists as well.

18 Q. Outside independent --

19 A. They're outside of Hancock, that's why I

20 asked.

21 Q. That's fair enough.

22 A. I don't believe we did talk to any others

23 directly regarding this transaction.

24 Q. How long a period of time was covered by

1 Dr. Klotz's work?

2 MR. DAVIS: Objection.

3 Q. Let me put it another way: when did you first

4 retain him?

5 A. I don't remember the specific date.

6 Q. Do you know when he stopped his work, when he

7 finished it?

8 A. That would have been probably late July, early

9 August.

10 Q. Is there a particular event or reason why you

11 recall that?

12 A. I believe at that particular point in time

13 that he had done the research in the medical

14 journals, he had talked to outside experts,

15 we both talked to Abbott; and I believe just

16 his work was done at that point.

17 Q. You didn't ask him to do anything further

18 after that time period, correct?

19 A. As it relates to this transaction?

20 Q. Yes.

21 A. I don't believe that I did.

22 Q. Now, at some point in the fall of 2000 Abbott

23 told you that 980 was being discontinued and

24 then you substituted another compound, correct?

1 the one with my markings.

2 MR. DAVIS: Well, if you're showing it

3 to him, it's going to be an exhibit in any

4 event so....

5 MR. WEINBERGER: I don't want to do that.

6 If I'm going to do that, I'm going to have to

7 sit and whiteout, and I'm not waiving my work

8 product impressions by marking this as an

9 exhibit.

10 I've asked him to ignore it, and there's

11 no -- it's the exact document, except it has

12 my handwriting on it. It's the exact document

13 we marked, same Bates numbers, same everything.

14 MR. DAVIS: Okay. I object. Go ahead.

15 Q. Okay. Do you recognize this document as a

16 preliminary analysis that Dr. Klotz e-mailed

17 to you on June 20, 2000?

18 A. Yes.

19 Q. Now, over on the first page of the document,

20 behind the e-mail, he says: "The basket is

21 really two baskets."

22 Did you have an understanding of what he

23 meant by that?

24 MR. DAVIS: Objection. You may respond.

1 A. Oh, I see. I'm sorry, okay. I believe he
2 was just trying to separate out the fact that
3 some of the compounds were further along than
4 other compounds in the total basket.

5 Q. He says: "In contrast, the remaining drugs,"
6 and he's contrasting those that are well along
7 in clinical trials and represent new but more
8 traditional approaches. "In contrast, the
9 remaining drugs are cytostatic cancer agents
10 for cancer."

11 Did you know which of the drugs in the
12 basket being proposed at that time, which, by
13 the way, are listed on Page 5, were in the
14 category of cytostatic cancer agents?

15 A. Well, from the chart he refers to ABT-627 as
16 cytostatic, and ABT-518, FTI, and Urokinase
17 as cytostatic.

18 Q. And he's talking about cytostatic cancer
19 agents so that would not -- did that involve
20 Urokinase as well or not, do you know?

21 A. I believe so.

22 Q. Okay. So you understood him to be including
23 518 in his discussion of cytostatic cancer
24 agents, right?

1 A. Yes.

2 Q. And he says: "Since this is a new, untried

3 strategy for everyone, it is high risk."

4 Now, were you aware in the time frame

5 of June 2000 that it was Dr. Klotz's opinion

6 that cytostatic cancer agents were high risk?

7 MR. DAVIS: Objection. You may respond.

8 A. Yes.

9 Q. Now, in fact, if you look over at the chart

10 on Page 5 there's a list of the drugs being

11 proposed for the basket, and there's a column

12 that says: "Preliminary assessment promise/

13 market risk."

14 Do you know whose input the preliminary

15 assessment reflected?

16 A. I don't know if it was simply Dr. Klotz's or

17 not.

18 Q. But you're aware that the assessment at that

19 time according to this summary was that the

20 market risk for ABT-518 was high, correct?

21 MR. DAVIS: Objection. You may respond.

22 A. Yes.

23 Q. Now, over on Page 2, Dr. Klotz asked the

24 question: "How do we value the technical

1 sorry, Page 7, which discusses 594 at the
2 bottom third?

3 A. Actually, if I can just go back to my prior
4 answer?

5 Q. Sure.

6 A. I believe that as it related to the item,
7 initially, the item investment did have a
8 structure that was similar to the Metabolex
9 structure; and I believe that Abbott ultimately
10 did not do that structure for it.

11 I believe it was for accounting reasons
12 or I was told it was for accounting reasons,
13 so I think I had that communication. To me
14 that, that kind of a structure was not
15 possible in the context of this investment.

16 Q. So are you saying that you specifically
17 asked about it in connection with this
18 investment or you just had that knowledge
19 because of something that was told to you
20 in connection with Idun?

21 A. That, I don't know.

22 Q. All right. And now if you could turn to
23 Page 7, and at the bottom do you recall
24 this was -- these were the preliminary views

1 of Dr. Klotz that he expressed to you in

2 this memo about 594 in June, 2000?

3 A. Yes.

4 Q. Do you know where he got the information

5 concerning what the Phase I studies indicated

6 and the Phase IIA studies suggested?

7 A. I believe he had the descriptive memorandums

8 that Abbott provided to me that I believe --

9 I don't know if Abbott directly provided it

10 to him or if I provided copies for him.

11 Q. And the descriptive memorandum stated that:

12 "The Phase I studies indicated a maximum

13 tolerated dose of 150 micrograms a day for

14 an oral formulation." Is that right?

15 A. I don't remember.

16 Q. Do you remember that it was reported in the

17 descriptive memorandum or other information

18 that was made available to Dr. Klotz that

19 10% of patients at 75 micrograms had a number

20 of uncomfortable side effects such as

21 headaches and nausea?

22 MR. DAVIS: Objection. You can respond.

23 A. I can't recall if that was in the descriptive

24 memorandum. If it was in there, he would have

1 had it.

2 Q. One way or another, he appears to have had

3 information that in the Phase IIA study 10%

4 of patients at a 75-dosage level were

5 experiencing a number of uncomfortable side

6 effects such as headaches and nausea, correct?

7 A. Yes.

8 Q. And that information was communicated to you?

9 A. Yes.

10 Q. And Dr. Klotz then said: "There appears to

11 be a risk of not passing Phase II clinical

12 trials." Do you see that?

13 A. I see that.

14 Q. Was that based upon the uncomfortable side

15 effects such as headaches and nausea from your

16 understanding?

17 A. I don't remember. Obviously, 100% of Phase II

18 trials don't succeed, so there's always some

19 risk; but I don't know specifically what he

20 was tying it to --

21 Q. Okay, but he wasn't talking generally here

22 about Phase II trials; he was talking

23 specifically about 594 based on the

24 information in this paragraph, correct?

1 MR. DAVIS: Objection.

2 A. He could have been. I mean, if you read it

3 that way, but he doesn't -- he doesn't

4 specifically say that, but --

5 Q. Well, wasn't that your understanding when

6 you read this paragraph?

7 MR. DAVIS: Objection.

8 A. Right.

9 MR. DAVIS: If you recall, go ahead.

10 A. Right, it's a general statement. What I'm

11 saying is: I don't remember if he was

12 relating it to therapeutic window, the

13 headaches and nausea or any other factors.

14 Q. Well, he says: "We should perhaps get an

15 assessment from a pain clinical trials expert."

16 Did you see that recommendation -- that

17 suggestion?

18 A. Yes.

19 Q. Did you ever follow-up on that?

20 A. I believe we did talk to an expert in pain --

21 or, I'm sorry, or that Dr. Klotz did.

22 Q. I'm talking about a clinical trials expert,

23 do you recall whether you ever talked to a

24 clinical trials expert in pain?

1 MR. DAVIS: Objection, asked and answered.

2 You can respond.

3 THE WITNESS: I'm sorry?

4 MR. DAVIS: I said: Objection, asked and

5 answered. You can respond.

6 A. I don't know if the person that Dr. Klotz

7 spoke to was a clinical trials expert. I don't

8 know if Dr. Leonard is a clinical trials

9 expert, so I don't know if we ultimately

10 spoke to a clinical trials expert.

11 Q. Well, Dr. Klotz yesterday said he was

12 concerned about these headaches and nausea

13 side effects; did he communicate that concern

14 to you at any time?

15 A. I believe we talked about it, and we talked to

16 Dr. Leonard about it as well.

17 Q. Now, over on the next page there's a

18 discussion of 518 towards the bottom

19 carrying over to the top of Page 9, he

20 says: "Abbott states there are more than

21 200 compounds in development for cytostatic

22 targets."

23 Were you aware that there were a lot of

24 compounds in development?

1 A. I was aware that there are lots of compounds
2 generally in development, in pharmaceutical,
3 in cancer, and in cytostatic.

4 Q. And in the next -- in the same section but
5 three sentences down he says: "In addition,
6 in my view these add-on combination therapies
7 have unusual promise but a high market risk
8 because they are new."

9 Were you aware that this was his view,
10 that these compounds had a high market risk?

11 A. Yes.

12 MR. WEINBERGER: Okay. The videographer
13 tells me we're just about out of tape, so why
14 don't we take a break?

15 THE VIDEOGRAPHER: This marks the end
16 of Tape No. 2 in the Deposition of Stephen J.
17 Blewitt. Going off the record, the time is
18 2:19.

19 (Whereupon, a brief recess convened.)

20 THE VIDEOGRAPHER: Back on the record.
21 Here marks the beginning of Tape No. 3 in the
22 Deposition of Stephen J. Blewitt. The time is
23 2:30.

24 MR. DAVIS: Actually, it occurred to me

1 during the break, do you intend to cover with
2 Mr. Blewitt today anything having to do with
3 the pending motion to dismiss or motion
4 for partial summary judgment because --

5 MR. DAVIS: Well, I might.

6 MR. DAVIS: All right, I just want to
7 make sure if you do, at least, intend to cover
8 that today. I'm sorry, what was the
9 start time?

10 THE VIDEOGRAPHER: Right now?

11 MR. DAVIS: Yes.

12 THE VIDEOGRAPHER: Oh, 2:30.

13 (Deposition Exhibit No. 17
14 marked for Identification.)

15 Q. I'm going to have to -- unfortunately, I was
16 counting on having the Klotz Exhibits today.
17 I'm going to have to do that again one more
18 time, the copy's in the making, so I'm going
19 to need another copy of this. Let's just go
20 forward; we'll see what happens.

21 Do you have Exhibit 17 in front of you?

22 A. Yes.

23 Q. Is that an e-mail from Mr. Klotz to you dated
24 July 11th with attaching research summaries for

1 several Abbott comments?

2 A. Yes.

3 Q. Did you read these when you got them?

4 A. Yes.

5 Q. Now, on the e-mail Dr. Klotz says: "For

6 8254751 ABT-594, there are questions in my

7 mind about whether they will complete clinical

8 trials."

9 Now, would that refresh your recollection

10 that Dr. Klotz's questions about the completion

11 of the clinical trials was not a general

12 inquiry, but a concern about a specific

13 compound?

14 A. I think that --

15 MR. DAVIS: Objection. You may respond.

16 A. I think that he had a specific concern.

17 Q. And he says: "This makes it even more

18 important that we see a summary of the

19 latest clinical trial data."

20 Did you discuss with him getting a summary

21 of the latest clinical trial data?

22 A. I know I discussed these findings with him,

23 and I can't recall whether there were no

24 additional clinical trials data, and I believe

1 Q. And in reviewing documents for this

2 deposition, did you see any such e-mail or

3 note?

4 A. I --

5 MR. DAVIS: Well, why don't you pause

6 for a minute after he finishes ... you can

7 respond.

8 A. The answer is: I don't know.

9 Q. Have you ever seen such an e-mail or a note?

10 A. I don't know. Again, I can't recall at this

11 time if I had asked Mr. Deemer or e-mailed to

12 Mr. Deemer for that additional information.

13 Q. Now, what did Mr. Deemer tell you?

14 A. I don't remember.

15 Q. You don't remember whether he told you there

16 was or there wasn't or you can't have it or

17 you can have it or you just don't remember?

18 A. I don't remember Mr. Deemer ever telling me:

19 I can't have it.

20 Q. Okay. Now, did you know at this time, from

21 reading this member or otherwise, what the

22 basis was for Dr. Klotz's concern that 594

23 might not complete clinical trials?

24 A. My recollection in looking also at the first

1 page beyond the e-mail is that there was some
2 concern about an acceptable therapeutic window
3 for 594.

4 Q. Okay, and what is therapeutic window in your
5 understanding?

6 A. My understanding is that there is a
7 relationship between where a dose is effective
8 versus where a dose is -- can cause some
9 severe or adverse side effects.

10 Q. What are severe adverse side effects to your
11 understanding?

12 A. I don't know as it relates to different --
13 it may be different for different compounds.

14 Q. Do you have any understanding of what the
15 severe adverse effects would be for a compound
16 like 594?

17 A. I don't remember.

18 Q. Did you know what it meant to say that ABT-594
19 had a therapeutic window of only 2 to 3?

20 A. I'm sorry, where is that?

21 Q. I'm sorry, it's on 03016. At the top
22 Dr. Klotz is asking: "What is an acceptable
23 therapeutic window for pain relievers and
24 general neuropathic relievers?"

1 "ABT-594 appears to have a therapeutic
2 window of only 2 to 3," and then's he citing
3 the Abbott memorandum, which I think is the
4 descriptive memorandum, correct?

5 A. That's my belief.

6 Q. So Abbott disclosed in the descriptive
7 memorandum that the data from which you
8 could determine that the therapeutic window
9 was only 2 to 3?

10 MR. DAVIS: Objection. You may respond.

11 A. I don't know if they disclosed or if he did
12 some calculation or not.

13 Q. You'd agree it appears that the information
14 was provided from which he was able to
15 determine that in the Abbott memorandum?

16 A. That's -- in reading this paragraph, that's
17 what it appears to be.

18 Q. So my question is whether you have an
19 understanding as to what that means?

20 A. I'm sorry, so what 2 to 3 means?

21 Q. Yeah.

22 A. Other than it's a particular ratio, I don't
23 know what an acceptable therapeutic window
24 is for different types of compounds. He --

1 Dr. Klotz indicates that he thinks it might

2 be not sufficient, but I don't have any basis.

3 Q. Well, but what does it generally mean to have

4 a therapeutic window of only 2 to 3, if you

5 know?

6 A. Well, all right, I'm not sure if I can

7 adequately describe -- I mean, my understanding

8 is that if you look at his parenthetical above

9 that paragraph that, he has concentration for

10 intolerable side effects divided by

11 concentration. I believe "c-o-n-c" is

12 concentration for efficacy so, and the ratio

13 of the concentration of the compound is only --

14 that's necessary for efficacy is only, only

15 2 or 3 times that in this particular example,

16 where you would have intolerable side effects.

17 Q. Now, did -- to your knowledge, did Dr. Klotz

18 speak to an expert or neuropathic pain about

19 594?

20 A. I believe he spoke to -- I believe he spoke to

21 an expert in pain. I don't know specifically

22 if it was neuropathic or not; I can't recall.

23 Q. Do you recall he had a five-minute interview

24 with a doctor at the National Institute of

1 Health?

2 A. That might be right.

3 (Deposition Exhibit No. 18

4 marked for Identification.)

5 Q. All right. Is Exhibit 18 an e-mail that

6 Dr. Klotz sent to you on July 18, 2000?

7 A. Yes.

8 Q. And he entitles it his first neuropathic

9 pain interview, do you recall looking at

10 this interview with Dr. Max at or about

11 the time it came out?

12 A. Yes.

13 Q. He says: "First interview," were you aware

14 of any other interviews he did with

15 neuropathic pain specialists or experts?

16 A. Not that I recall.

17 Q. In the interview the summary appears to be

18 attached beginning of page JH003000; do you

19 have awareness of any other questions that

20 Dr. Klotz pursued with Dr. Max besides those

21 indicated on these pages?

22 MR. DAVIS: Objection. Would you reread

23 the question, please?

24 Q. I'll rephrase it.

1 Did Dr. Klotz tell you, have any other
2 questions or responses that he had with
3 Dr. Max other than what's contained on this
4 document?

5 A. I don't remember if he did or didn't.

6 Q. And, specifically, do you have any
7 recollection of Dr. Klotz telling you that
8 he discussed clinical trials with Dr. Max;
9 clinical trials, that is, for 594?

10 A. Not that I'm aware of.

11 Q. Do you have any recollection of Dr. Klotz
12 telling you that he specifically discussed
13 vomiting or nausea with Dr. Max?

14 A. I don't see any references to vomiting in
15 his write-up.

16 Q. You have no recollection of him telling you
17 that he discussed that with Dr. Max separate
18 and apart from this document?

19 A. I don't.

20 Q. Now, do you recall understanding that Dr. Max
21 told Dr. Klotz that a window, a therapeutic
22 window, of 2 was acceptable for a neuropathic
23 pain medication?

24 A. Yes.

1 Q. Now, you indicated you had a call with
2 Dr. Leonard and a couple others from Abbott
3 and Dr. Klotz; can you tell me how that came
4 about?

5 A. I believe that through Dr. Klotz's reviews of
6 the data that he developed a list of questions
7 that we wanted to ask Abbott, and I can't
8 remember Dr. Leonard's role; but I believe he
9 was chief scientific officer or some title
10 such as that, and so Abbott indicated that
11 he would be the appropriate person to ask
12 those questions of.

13 Q. Okay, and you attended that meeting by phone
14 with Dr. Klotz and you personally present --
15 that was a terrible question; let me withdraw
16 it.

17 You and Dr. Klotz were in the same room
18 during that call, is that correct?

19 A. I don't think we were.

20 Q. Okay. So you think you and he were patched
21 in on phone lines, separate phone lines?

22 A. I think that's right.

23 Q. And Dr. Leonard was on the phone and Phil
24 Deemer and Steve Cohen, correct?

1 A. That's my recollection.

2 Q. And do you know if they were all together,

3 did they say whether they were together?

4 A. They may have; I don't remember.

5 Q. Did you take notes of this conversation?

6 A. I don't know if I did.

7 Q. Have you ever seen any notes taken by you of

8 this conversation?

9 A. I don't think I have.

10 Q. Dr. Klotz took notes of this conversation,

11 correct?

12 A. Yes, he did.

13 Q. And then he had them prepared in typewritten

14 form and distributed to you, is that right?

15 A. Yes.

16 Q. And when you looked at those notes, did you

17 believe that they accurately summarized the

18 conversation you had with Dr. Leonard and the

19 others?

20 A. I don't recall any discrepancies.

21 Q. Okay. So at the time you believed that his

22 write-up was an accurate summary of what

23 happened during the call?

24 A. Yeah, I just don't remember if, if there were

1 any things that I disagreed with in his

2 summary or not.

3 Q. Sitting here today you have no recollection

4 of any such matters?

5 A. I don't recall any, no.

6 Q. Okay, and do you recall any matters that

7 you considered significant that were discussed

8 at the meeting that were not recorded by

9 Dr. Klotz in his memoranda?

10 MR. DAVIS: It may help if you'd give him

11 it.

12 Q. Yeah, I'm going to; I just want to ask him if

13 he generally looked at it at the time; and if

14 at the time he believed looking at it that

15 he believed: Geez, something was missing

16 from here?

17 A. I just don't remember.

18 Q. Okay. You don't remember having a reaction

19 at the time you reviewed the memo that there

20 was something significant that was missing

21 from it, is that right?

22 MR. DAVIS: Objection.

23 A. I don't remember that.

24 Q. Okay.

1 MR. DAVIS: Do you have a copy of that?

2 MR. WEINBERGER: Sorry.

3 MR. DAVIS: Thank you.

4 (Deposition Exhibit No. 19

5 marked for Identification.)

6 Q. Is this a memorandum -- I'm sorry, an e-mail

7 that you got from Dr. Klotz on or about

8 July 28, 2000, attaching his interview notes

9 of your call with Dr. Leonard, Mr. Deemer,

10 and Mr. Cohen?

11 A. Yes.

12 Q. And did you review it at the time?

13 A. Yes.

14 Q. Now, on the discussion on 594 do you recall

15 that Dr. Klotz raised the issue of a

16 therapeutic window of 594 being only 2 to 3?

17 A. Yes.

18 Q. Do you recall Dr. Leonard saying in substance

19 that when you give patients the upper limit

20 dose the side effects aren't dangerous:

21 headache and vomiting?

22 A. I don't have direct memory of that.

23 Q. You don't deny it; you just don't remember it,

24 correct?

1 A. Correct.

2 Q. And did you have an understanding as to what

3 the upper limit dose was thought to be at the

4 time for 594?

5 A. I don't recall.

6 Q. Turning to the discussion on the last page,

7 and just to put it in context on the prior

8 page, do you see that the question now

9 concerns cytostatic drugs except for ABT-627;

10 do you see that?

11 A. Yes.

12 Q. And so do you recall a section of the meeting

13 the conversation in which Dr. Klotz was asking

14 about cytostatic drugs other than 627?

15 A. I don't have a direct memory of that, but I

16 see his notes.

17 Q. By the way, did you ask any questions during

18 this call?

19 A. I don't remember.

20 Q. Now, over on the last page Dr. Klotz in

21 italics has written: "In this regard

22 metalloproteinase inhibitors are particularly

23 worrisome."

24 Now, was it your understanding that 518

1 was a metalloproteinase inhibitor?

2 A. I'm not sure if there are two questions there.

3 Do I understand that 518 was an MMPI?

4 Q. Yep.

5 A. Yes.

6 Q. Okay. And do you recall that he was, he was

7 saying based upon his literature search and

8 his discussion with experts that

9 metalloproteinase inhibitors were particularly

10 worrisome?

11 MR. DAVIS: Objection. You can respond.

12 A. I'm not sure what in this regard relates to

13 in his italics, but he does say that there

14 was issues of underwhelming efficacy and

15 joint problems.

16 Q. And toxicity?

17 A. Yes, and I'm not sure if that was the joint

18 problems or not.

19 Q. Okay. Now, were you aware that he had

20 concluded that or that he had found that

21 there was a literature study showing that the

22 metalloproteinase inhibitor had no survival

23 advantage when compared to chemotherapy with

24 gemcitabine and advanced pancreatic cancer?

1 THE COURT REPORTER: Off the record.

2 THE VIDEOGRAPHER: Going off the record,

3 the time is 3:01.

4 (Whereupon, a brief discussion

5 commenced off the record.)

6 THE VIDEOGRAPHER: Back on the record.

7 The time is 3:02.

8 Q. Basically, I'm trying to find out whether he

9 had communicated to you or if you're aware

10 that his literature study had found this

11 unfavorable results with respect to that

12 compound?

13 A. It certainly says it here, so he's written

14 that here.

15 Q. And, also, that Abbott had said that that

16 compound had dose-limited joint side effects?

17 MR. DAVIS: Objection. When you say

18 "that compound," you mean marimastat?

19 Q. Were you also aware that the marimastat was

20 the British biotech company?

21 A. Just reading it, that's what it indicates.

22 Q. And do you recall Dr. Leonard saying that

23 the marimastat was not selective enough?

24 A. I don't have specific recall of the telephone

1 conversation that we had.

2 (Deposition Exhibit No. 20

3 marked for Identification.)

4 Q. Okay. Turn back to, if you could give me

5 just a second to pull out a document, do you

6 recognize Exhibit 20 as a copy of the

7 Research Funding Agreement between Abbott

8 and John Hancock and attached exhibits?

9 A. Obviously, it's a very large document; but,

10 generally, yes.

11 Q. I'm not expecting you to authenticate every

12 single page, and among the descriptions are

13 the descriptive memoranda for each of the

14 compounds that were included in the agreement,

15 correct?

16 A. Yes.

17 Q. So let's turn to the descriptive memoranda

18 for the 594, that is beginning at page JH

19 008159. Do you have that?

20 A. Yes.

21 Q. Now, this document is dated February 2001,

22 but you had versions of this going back to

23 May or June of 2000, right?

24 A. I don't remember the first one that we did,

1 but I believe we had an earlier version than

2 February, so 2001.

3 Q. Yeah. In fact, Dr. Klotz said that he had,

4 you know, and we've seen in some of his work

5 that he had some memorandum from Abbott as

6 early as July, 2000; would that help refresh

7 your recollection at all?

8 A. No, I'm not saying that we didn't have earlier,

9 and that time frame sounds right; I just don't

10 specifically know when.

11 Q. Okay, fair enough. Now, in the descriptive

12 memoranda for 594, Page 2 it states:

13 A Phase IIb dose ranging trial began

14 April 2000 in diabetic neuropathic,

15 n-e-u-r-o-p-a-t-h-i-c, pain, and go/no" --

16 well, let's stop there.

17 Do you know what a dose ranging trial is?

18 A. My belief is that it's trying different doses

19 on different patients.

20 Q. Did you have an understanding as to whether

21 that was -- strike that. Do you know what a

22 blind clinical trial is?

23 A. I believe I do.

24 Q. And do you know what double blinded clinical

1 trial is?

2 A. Actually, I believe I know what a double blind

3 is; I'm not sure I know what a blind is.

4 Q. And can you tell me what your understanding is

5 with respect to that?

6 A. I believe that the patient does not know

7 whether they're receiving a placebo or the

8 compound that's being tested, and I believe

9 that the doctor administering does not know.

10 Q. And did you have an understanding that the

11 Phase IIb dose ranging trial that Abbott

12 was conducting was a blinded trial, a double

13 blinded trial?

14 A. I don't. I could look through this to see

15 if I knew about it. I'm not sure; I don't

16 have a recollection sitting here today

17 whether I knew it was double blind or not.

18 Q. Okay. Now, at the time you signed this

19 agreement in March 2001, did you understand

20 that a go/no go decision for clinical efficacy

21 was expected in June, 2001?

22 A. Yes.

23 Q. And what did that mean to you, a go/no go

24 decision for clinical efficacy?

1 A. My recollection is that knowledge of the
2 trials would be able to tell you whether
3 the compound was effective relative to the
4 placebo.

5 Q. And you understand that that clinical trial
6 was not complete as of March, 2001, right?

7 MR. DAVIS: Objection. You may respond.

8 A. I was not told that it was -- that the trial
9 was complete or even ongoing -- actually,
10 I'll take that back. I was told that it was
11 ongoing, but not that it was complete so the
12 answer is I knew that it was -- according
13 to Abbott and what they told me, the trial
14 was ongoing.

15 Q. Right. And that's what this says, the
16 descriptive memorandum?

17 A. No, it doesn't.

18 Q. You said no?

19 A. I said no.

20 Q. Okay. Was it your understanding in looking
21 at this that the trial began in April 2000;
22 and that when it was complete, there would be
23 a go/no go decision for clinical efficacy
24 based on the results?

1 to make a go/no go decision in June of 2001.

2 Q. Okay. Now, over on Page 7 under Clinical

3 Studies there's information that in the

4 Phase I trials the most common adverse

5 events for subjects receiving ABT-594 at

6 75 micrograms were: nausea 15%, and

7 vomiting 5%. Do you see that?

8 A. Yes.

9 Q. Now, did you have any understanding as to

10 what dosages were being used in the Phase IIb

11 clinical study?

12 A. I don't recall now, but I believe I knew at

13 the time.

14 Q. Okay, and you knew that it was higher; the

15 dosages were higher, correct, included higher

16 dosages?

17 A. I believe that's right, that they did include

18 higher dosages.

19 Q. In fact, it says that at the bottom of the

20 paragraph?

21 A. Yes.

22 Q. Okay. So do you have any understanding

23 whether if the side effect is dose-related,

24 that a higher dosage would likely result in

1 a higher incidence of the side effect?

2 MR. DAVIS: Objection.

3 A. Say that one more time please?

4 Q. Yeah. Did you have any understanding based

5 on your work in the area and your

6 consultation with experts, et cetera, that

7 if a side effect was dose-related, that it

8 would be more common at a higher dosage

9 than a lower dosage?

10 MR. DAVIS: Objection. You can respond.

11 A. I think that I would agree with that.

12 Q. Okay. So that if, for example, nausea and

13 vomiting were dose-related, and they're

14 experienced at a certain level at 75

15 micrograms, that the likelihood is that

16 they would be experienced at higher levels,

17 at 150 or 225, correct?

18 MR. DAVIS: Objection. You may respond.

19 A. I would say that there's a possibility that

20 they would.

21 Q. Okay. Now, looking over to the next page

22 there's a box, there's a heading called:

23 Considerations and a Statement Target

24 Profile.

1 Then, underneath that: "The current
2 status of ABT-594's profile versus target
3 profile is summarized in the table below,"
4 and then there's one column that says:
5 "Target profile attribute," and next to
6 that: "Probability," do you see that?

7 A. Yes.

8 Q. What did you understand this to mean?

9 A. My understanding that based on all of these --
10 that this was a summary of a number of factors,
11 that Abbott was looking at to evaluate the
12 drug compound ABT-594.

13 Q. Now, let's look at the last one, it says:
14 "Target profile attribute: Low
15 nausea/vomiting." Then, next to that,
16 Probability, it says: "low."

17 Did you understand that to mean Abbott
18 was saying that the probability that this
19 drug would achieve a profile of low nausea
20 and vomiting as a side effect was low?

21 A. I don't specifically remember at the time,
22 but reading this now and generally
23 understanding this, yes.

24 Q. Okay. Let's take a look at the descriptive

1 memorandum for 518, which is at 8193.

2 MR. DAVIS: I'm sorry, what page?

3 Q. It's 008193. There's a couple of things I

4 want to ask you about this.

5 Over on Page 3, about two-thirds of the

6 way down, Abbott's disclosing: "However, as

7 novel therapy, MMPI's will probably be

8 adopted initially as add-on the current

9 chemotherapy."

10 A. I'm sorry, Page 3 and then where is that

11 relative to the chart?

12 Q. It's about three quarters of the way down

13 the chart, the paragraph begins: "However."

14 A. Okay, yes.

15 Q. Okay, and do you recall that Dr. Klotz had

16 raised questions about the potential of the

17 drug that was going to be used as an add-on

18 therapy in the material we looked at earlier?

19 A. Vaguely.

20 Q. Over on the next page at the bottom, it says:

21 Under Compounds in Development the memorandum

22 says: "The MMP inhibitor field is competitive.

23 More than 30 firms have filed patents claiming

24 molecule MMP inhibitors over the past 5 years,

1 compound?

2 MR. DAVIS: Objection.

3 A. Those are the words that they're writing here.

4 I think that's a general -- you can generally

5 say that, most drugs, most compounds.

6 Q. You understood that?

7 MR. DAVIS: Objection.

8 Q. You understood that?

9 MR. DAVIS: I'm sorry. Objection. You

10 may respond.

11 A. Did I read the words and understand the words?

12 Yes.

13 Q. Okay. Now, over on the top of the next page

14 there's a box that has some competitive

15 compounds and one of them is the one we

16 talked about a little bit, this marimastat

17 by British Biotechnology.

18 Do you recall knowing as a result of

19 this descriptive memorandum or anything else

20 that there were negative results that had

21 come out based on this drug, marimastat?

22 A. I believe that we had talked about it with

23 our -- or I had talked about it with

24 Dr. Klotz, and we had talked about it with

1 Abbott.

2 Q. And do you recall that Abbott's view was

3 that the side effects that -- I'm sorry, the

4 joint effects produced by marimastat, among

5 others, almost certainly precluded their

6 long-term use limited compliance and reduced

7 optimal efficacy, as stated in the second

8 paragraph of the page?

9 MR. DAVIS: Objection.

10 A. If I remember your question, I think it's

11 relating to the three compounds above?

12 Q. Yes.

13 A. Yes, I thought you said marimastat just --

14 Q. Including marimastat?

15 A. Okay, yep.

16 Q. So if British Biotech decided not to pursue

17 marimastat, which had all these negative

18 results reported, and Abbott saying that

19 the long-term use compliance and optimal

20 efficacy was precluded by the joint side

21 effects, would that have concerned you in

22 terms of the prospects for a success of

23 the 518?

24 MR. DAVIS: Objection. You may respond.

1 A. I thought when we spoke to Dr. Leonard that
2 he indicated that 518 would not have the
3 same effects --

4 Q. Right.

5 A. -- as it related to the joints.

6 Q. Right.

7 A. To the joints.

8 Q. I agree. So, in other words, it would not
9 have concerned you if British Biotech had
10 dropped marimastat given Abbott had told
11 you that it was not really very effective
12 and their product was different, is that
13 fair?

14 MR. DAVIS: Objection. You can respond.

15 A. My understanding is, from what Abbott told us
16 is, that that they did have or they did not
17 believe that they did not have the side
18 effects as related to the marimastat, so it
19 was a data point; but it was my understanding
20 from my conversations with Abbott that they
21 had a drug that behaved differently.

22 Q. Now, over on Page 7, under Competition, the
23 memorandum states: "The 3rd or 4th MMPI to
24 market, Abbott's compound will need to

1 demonstrate a meaningful clinical advantage
2 over compounds that are in more advanced
3 development. Strict go/no go criteria will
4 determine if the MMPI can meet these hurdles.
5 If they cannot be met, the compound will not
6 move forward."

7 Did you read that language when you
8 looked at the memorandum?

9 A. I did read that language, yes.

10 Q. What did you understand that to mean?

11 A. Well, I understood it to mean that --

12 referring back to Page 4 -- that Abbott's
13 compound may be the 3rd or 4th to market;
14 and if they are the 3rd or 4th, then they
15 would have to have these meaningful clinical
16 advantages.

17 Q. Otherwise the compound would not move forward,
18 right?

19 A. As the MMPI was being developed, if there were
20 others that were being developed ahead of the
21 MMPI, and at that time Abbott felt that it was
22 going to be the 3rd or the 4th to market that
23 it would have that meaningful clinical
24 advantage or otherwise would not be able to

1 move forward.

2 Q. And Dr. Klotz had, on a number of occasions

3 in his memos, expressed concern about the

4 class of cytostatic cancer agents, do you

5 recall that --

6 MR. DAVIS: Objection.

7 Q. -- as a class?

8 MR. DAVIS: Objection. You may respond.

9 A. Well, I think generally he raised the issue

10 that it was a relatively new approach to

11 cancer. I don't remember right now, and we

12 can look at his notes, that he specifically

13 said cyto -- that there was something specific

14 about cytostatic agents that he was concerned

15 about.

16 My recollection was that it was more

17 general.

18 Q. But if he did, you wouldn't have any knowledge

19 to dispute that; you would accept that, correct?

20 MR. DAVIS: Objection. You can respond.

21 A. My understanding at the time was and it says

22 it in a number -- or at least in 518 that

23 there were many people who were pursuing

24 MMPI's, which are cytostatic; and I think,

1 generally speaking, cytostatic, so I think
2 generally speaking that there was -- it was
3 a new approach to treating cancer but a lot
4 of large pharmaceutical companies and small
5 pharmaceutical and biotechnology companies
6 believed that it was worth pursuing, that
7 there were high rewards.

8 Q. Do you remember he said that it was high risk?

9 A. And I think he said high reward as well.

10 Q. I'm not disputing that; I'm just asking to
11 your memory, did he say it was high risk?

12 A. Right.

13 MR. WEINBERGER: We may be leaving this
14 area. How long have we been going? It feels
15 like awhile to me.

16 THE VIDEOGRAPHER: We've been going
17 about four hours.

18 MR. WEINBERGER: No, no, no. I mean,
19 in this session.

20 MR. DAVIS: Over an hour.

21 Q. Now, looking at the descriptive memoranda,
22 the two that we just looked at, could you tell
23 me, and look at 594 and tell me which
24 statements you believed in this memoranda

1 Q. Mr. Blewitt, do you want to put the Research

2 Funding Agreement in front of you?

3 A. Yes.

4 Q. If you would turn to the page, it's stamped

5 008082. Specifically, Section 1.3 states:

6 "Aggregate spending target shall mean

7 \$614,000,000."

8 First of all, let me ask you: you

9 were involved in the negotiation of this

10 agreement, correct?

11 A. Yes.

12 Q. Along with your lawyers?

13 A. Yes.

14 Q. Is it fair to say that you were the principal

15 Hancock person who was not a lawyer who was

16 involved in the negotiation of this agreement?

17 A. Yes.

18 Q. Now, with respect to the term "aggregate

19 spending target" -- strike that.

20 Did you understand that John Hancock's

21 maximum funding contribution under this

22 agreement was 214,000,000?

23 A. Yes.

24 Q. And did you understand that Abbott's minimum

1 You can tell me you did have that

2 understand or you didn't?

3 MR. DAVIS: Or you can respond in any

4 which way you wish to. Objection.

5 A. My understanding of 1.3, the definition of

6 aggregate spending target was that it meant

7 \$614,000,000.

8 Q. Period?

9 A. Yes.

10 Q. Okay. So do you recall stating under oath,

11 under pain and penalties of perjury of this

12 case, that the aggregate spending target

13 was the combined total of Hancock's maximum

14 funding contribution and Abbott's minimum

15 funding contribution?

16 A. I don't recall that.

17 Q. Okay. Let's see if I can refresh your

18 recollection. This is an affidavit that you --

19 MR. DAVIS: Do you have a copy?

20 MR. WEINBERGER: So sorry.

21 (Deposition Exhibit No. 21

22 marked for Identification.)

23 Q. Is this an affidavit that you signed,

24 Mr. Blewitt?

1 A. Yes.

2 Q. Is that your signature on the last page signed

3 under the pains and penalties of perjury this

4 29th day of September, 2004?

5 A. Yes.

6 Q. And you signed this and filed it in the

7 United States District Court for the District

8 of Massachusetts, correct?

9 A. Yes.

10 Q. And on paragraph 16 you said as follows:

11 "The combined total of John Hancock's maximum

12 funding contribution and Abbott's minimum

13 funding contribution (i.e., \$614,000,000) is

14 defined in the agreement as the aggregate

15 spending target." Do you see that?

16 A. I see that, yes.

17 Q. Does that refresh your recollection that it

18 was the parties' understanding that the combined

19 total -- that the aggregate spending target was

20 the combined total of John Hancock's maximum

21 funding contribution and Abbott's minimum

22 funding contribution?

23 MR. DAVIS: Objection. You may respond.

24 A. I'm not sure what Exhibit 5 is. I presume

1 that that's the agreement?

2 Q. Yes.

3 A. And I read this as a mathematical calculation

4 of 214,000,000 plus 400,000,000 is 614,000,000.

5 Q. That's not what it says, sir. It says the

6 combined total of Hancock's maximum funding

7 contribution and Abbott's minimum contribution

8 -- funding contribution is defined in the

9 agreement as the aggregate spending target,

10 right?

11 MR. DAVIS: Objection.

12 Q. Is that right?

13 A. Is that what it says? Yes, that's what it

14 says.

15 Q. Right, and you're now disavowing the

16 statement you made in your declaration --

17 your affidavit?

18 MR. DAVIS: Objection. You may respond.

19 A. No. Again, I'm reading this as 614,000,000

20 is defined in the agreement as the aggregate

21 spending target.

22 Q. But it says more than that, sir; it doesn't

23 say 614 as defined as the aggregate spending

24 target. It says the combined total of

1 maximum under 3.1, they're \$214,000,000.

2 I don't know in the document if we

3 explicitly said or defined that it was

4 400,000,000 as a minimum for Abbott.

5 Q. Now, I guess what I'm asking is: do you

6 recall that as -- that in various drafts of

7 the agreement the Hancock maximum changed

8 from 220 to 218 to 200 to 214; do you recall

9 that?

10 A. Yes.

11 Q. And do you recall that each instance in

12 which that change occurred there was a

13 corresponding change in the aggregate

14 spending target number in the definition

15 section; do you recall that?

16 A. I believe that's correct.

17 Q. Okay. I want to put some drafts into the

18 record here.

19 (Deposition Exhibit No. 22

20 marked for Identification.)

21 Q. Now, here, first, can you tell me, does this

22 appear to be a draft of the Research Funding

23 Agreement in October, 2000?

24 A. Yes.

1 Q. And here the aggregate spending target
2 specifically states: "shall be the sum of
3 the aggregate program payments to be made by
4 Hancock pursuant to 3.1 and the aggregate
5 expenditures to be made by Abbott pursuant
6 to 3.2," do you see that?

7 A. It, just to be clear, it says: "shall mean
8 \$620 (sic), and then it says: "Such amount"
9 for clarification --

10 Q. Correct.

11 A. -- "being the sum of the aggregate funds.
12 I'm sorry, "the program payments to be made
13 by Hancock in 3.1 and the aggregate
14 expenditures to be made by Abbott in 3.2."

15 Q. Well, actually, it doesn't say anything about
16 a clarification.

17 A. No, I said for clarification; I'm sorry, I
18 didn't read it as --

19 Q. Now, so that's 620. If you want to look over
20 to Section 3.1, can you tell me what the
21 Hancock program payments in this draft were
22 contemplated to be?

23 A. \$220,000,000.

24 Q. So 220 plus the 400 gives you 620,000,000,

1 right? That's right, isn't it?

2 A. If you're asking me if 220 plus 400 equals

3 620, the answer to that is yes.

4 Q. That's what I'm asking you.

5 A. Yes, sorry.

6 MR. WEINBERGER: Then, let's mark this

7 as the next exhibit.

8 (Deposition Exhibit No. 23

9 marked for Identification.)

10 MR. DAVIS: This is Exhibit 23, correct?

11 THE COURT REPORTER: Right.

12 Q. Does this appear to be a draft of the Research

13 Funding Agreement apparently either in February

14 or March, 2001?

15 A. Yes.

16 Q. And if you look at the page that's stamped

17 AL 001327 in Section 1.3 the aggregate spending

18 target is now \$618,000,000, correct?

19 A. Yes.

20 Q. And if we look at the John Hancock payments,

21 Section 3.1, they're now 218,000,000, correct?

22 A. Yes.

23 Q. So the aggregate spending target is, again,

24 calculated on the basis of \$400,000,000 plus

1 the 208, plus the program payments -- maximum
2 program payments from Hancock set out in 3.1,
3 correct?
4 MR. DAVIS: Objection. You can respond.
5 A. Mathematically, the aggregate spending target
6 equals the 218 plus the 400.
7 Q. So as the amount of that maximum Hancock
8 program payments changed, the aggregate
9 spending target was changing dollar for
10 dollar, right?
11 A. As the maximum Hancock payments changed?
12 Q. That's what I said.
13 A. I can't hear every word, sorry.
14 THE VIDEOGRAPHER: There's one minute
15 remaining.
16 MR. WEINBERGER: All right. We'd better
17 stop because I got to pull out another document.
18 Let's stop for a minute. Do you want to take a
19 short break? I'll pull out the rest of these
20 drafts.
21 THE VIDEOGRAPHER: This marks the end
22 of Tape No. 3 in the Deposition of Stephen J.
23 Blewitt. Going off the record, the time is
24 4:40.

1 (Whereupon, a brief recess convened.)

2 THE VIDEOGRAPHER: Back on the record.

3 Here marks the beginning of Tape No. 4 in the

4 Deposition of Stephen J. Blewitt. The time is

5 4:43.

6 MR. DAVIS: I'm sorry, what time did we

7 start?

8 THE VIDEOGRAPHER: 4:43.

9 MR. DAVIS: Thank you.

10 (Deposition Exhibit No. 24

11 marked for Identification.)

12 Q. Okay. Does this appear to be some marked up

13 pages of some of the provisions of the

14 Research Funding Agreement in the time period

15 of around March, 2001?

16 A. Yes.

17 Q. I'll point out to your attention the "CH&S,"

18 which I think would be Choate, Hall & Stewart,

19 dated "3/9"?

20 A. Yes.

21 Q. Do you see that? Now, over at Section 1.3,

22 the aggregate spending target is defined as

23 \$618,000,000. Do you see that?

24 A. Yes.

1 Q. And then the 8 is crossed out and there's a 4

2 put in there?

3 A. Yes.

4 Q. And it says: "See 3.1"?

5 A. It says that, yes.

6 Q. Okay. Now, why would you have to see 3.1 to

7 know what the aggregate spending target was?

8 MR. DAVIS: Objection. You may respond.

9 A. I think what the reference is, is to add up

10 the amounts in Section 3.1, which add up to --

11 because I know that it adds up to 214,000,000.

12 Q. If you want to look at 3.1, are you there --

13 A. Yes.

14 Q. -- already? So there was going to be a

15 change to the maximum amount of payments that

16 Hancock was obligated to make from 218 down

17 to 214,000,000 correct?

18 A. Yes.

19 Q. So, once again, the aggregate spending target

20 was changed to again reflect the amount of

21 Hancock's maximum funding obligation now to

22 214,000,000 and Abbott's minimum contribution

23 of 400 million; is that right?

24 MR. DAVIS: Objection. You can respond.

1 (Deposition Exhibit No. 28

2 marked for Identification.)

3 Q. Is this a letter you sent to Mr. Tyree on

4 April 1st, 2005?

5 A. I don't have it.

6 Q. Sorry. Is that a letter you sent to Mr. Tyree

7 on or about April 1st, 2005?

8 A. Yes.

9 Q. And was this sent pursuant to contractual

10 requirement of a dispute resolution in the

11 Research Funding Agreement?

12 MR. DAVIS: Objection. You can respond.

13 Q. It refers to Section 16.7 of the Research

14 Funding Agreement?

15 A. Yes.

16 Q. So you understood that you were required to

17 notify Abbott of any disputes you had under

18 the agreement before you could file a lawsuit

19 on such disputes, didn't you?

20 MR. DAVIS: Objection. You may respond.

21 A. Yes.

22 Q. And that's what this letter was intended to

23 do, correct?

24 MR. DAVIS: Objection. You can respond.

1 A. It references the Section 16.7 and then it
2 does spell out a number of disputes.

3 Q. Okay, and then did you have a meeting
4 concerning these disputes?

5 A. I believe so.

6 Q. Now, the letter doesn't specifically mention
7 -- except in connection with outlicensing,
8 it doesn't specifically mention any
9 misrepresentations with respect to the
10 development status of any specific compounds
11 for 518 and 594; would you agree?

12 MR. DAVIS: Objection. You can respond.

13 A. There are broad -- at least, I'm reading this
14 quickly, but there's one reference to just
15 program compounds.

16 Q. Unreasonably, unjustifiably failed to use
17 commercial reasonable efforts to develop the
18 compound?

19 A. Right.

20 Q. But there's no claim of fraud or
21 misrepresentation with respect to any
22 compounds, both 594 and 518; isn't that right?

23 MR. DAVIS: Objection. The document
24 speaks for itself. You can respond.

1 A. Right, it says that the disputes which John
2 Hancock is currently aware of, and then it
3 does mention misrepresented the development
4 status of 518 and 594.

5 Q. And did you ever send Abbott any written
6 notice of a claim of misrepresentation or a
7 breach of warranty with respect to the ABT-773
8 compound?

9 MR. DAVIS: Did he personally?

10 Q. Did you or Hancock to your knowledge?

11 MR. DAVIS: Objection. You may respond.

12 A. I believe that we filed an amended complaint
13 specifically mentioning 773.

14 Q. I know that. I'm asking whether you sent a
15 letter pursuant to 16.7 to Abbott notifying
16 them of that prior to filing the amended
17 complaint?

18 MR. DAVIS: Objection. You may respond.

19 A. I don't remember any specific letter relating
20 to misrepresentations on 773 that were sent.

21 Q. And at your meeting with regard to the
22 April 1, 2005, letter, there were no specific
23 discussions about misrepresentations or breaches
24 of warranty regarding 773; were there?

- 1 MR. DAVIS: Objection. You may respond.
- 2 A. I don't remember any.
- 3 Q. Now, when did you first become aware of
- 4 misrepresentations with respect to 594?
- 5 A. In the fall -- I believe it was the fall of --
- 6 I'm getting my years confused -- 2003.
- 7 Q. And you raised that in the meeting with
- 8 Abbott that you believed there had been
- 9 fraud with respect to the 594, correct?
- 10 A. I believe it was raised in the meeting.
- 11 Q. And the allegations you made with respect
- 12 to fraud in the 594, were they the same as
- 13 what you told me when you went through the
- 14 descriptive memorandum regarding 594 earlier
- 15 today?
- 16 MR. DAVIS: Objection. You may respond.
- 17 A. Generally, we indicated that it was our belief
- 18 that Abbott had not intended to develop 594
- 19 prior to the signing of the agreement in that
- 20 meeting in the fall of -- it might have been
- 21 winter of 2003.
- 22 Q. And, also, that they, that they misstated or
- 23 misrepresented the number of enrollees in
- 24 the clinical study?

1 A. I don't believe in that meeting that we

2 had the specific information as it related

3 to the complaint.

4 Q. When did you get that?

5 A. This specific information?

6 Q. Yes.

7 A. I believe we got it through -- it was either

8 through the audit process; I believe it was

9 through the audit process.

10 Q. When would that be?

11 A. The audit process would have started in

12 April of 2004.

13 Q. You certainly had that information by the

14 time you filed your complaint in this case,

15 didn't you?

16 MR. DAVIS: Objection. I'd caution you

17 not to speculate. If you know when you had it,

18 you can tell him.

19 A. And I was speculating when I said I think.

20 At this point, I'm not certain. I know that

21 in the fall of 2003 we had -- we believed that

22 there might be misrepresentations, and we set

23 out through an audit process, and then we

24 filed litigation and filed a complaint, but

1 you said you didn't have at the time of this?

2 A. I'm sorry. Well, I believe that we would

3 have learned in maybe December or maybe

4 November of 2005 what they thought that

5 they were going to spend -- it was a bit

6 of an estimate.

7 There was an estimate in it, but I

8 think that we would have seen with our

9 spending over the period was at that time.

10 (Deposition Exhibit No. 31

11 marked for Identification.)

12 Q. Can you identify this document for me?

13 A. It's a memorandum to the file that describes

14 changes to the agreement relative to the

15 October 2000 committee finance report.

16 Q. Okay, and this was a memorandum you just

17 wrote to the file?

18 A. Yes.

19 Q. Was there a requirement that it be shared

20 with anyone?

21 A. Not that I'm aware of.

22 Q. Was it shared with anyone?

23 A. This memo, I don't believe it was.

24 Q. As I read this, your median rate of return

1 A. Yes.

2 Q. And that was on all products?

3 A. Again, the royalty rate was applied to the

4 net sales in a given year with a whole

5 group of products.

6 Q. So why is it that you were able to get a more

7 favorable higher end royalty rate with the

8 substitution of these compounds?

9 A. Well, the contract -- I mean, the pool of --

10 many things changed and so I wouldn't be able

11 to look at it in isolation; I'd have to look

12 at it in the aggregate with all of the pools,

13 so, for instance, the aggregate milestone

14 payments might have dropped from 12,000,000

15 to 8,000,000. I see that right above, right

16 above it.

17 When 980, ABT-980, dropped out, we had

18 to go through some pretty significant changes,

19 and there were some very significant proposals

20 to change the agreement and have different

21 payment structures and different milestones

22 and different -- I even believe different

23 royalties, and ultimately we came back to

24 the same structure with a different pool of

1 compounds but even with a different -- but
2 even with the same structure with a different
3 pool of compounds, we had to modify royalties
4 and milestones, et cetera.

5 Q. But you were able to substitute different
6 products for products that had been dropped
7 and still pretty much get to the same place
8 by adjusting other variables, is that right?

9 MR. DAVIS: Objection. You can respond.

10 A. Well, again, it was through a long process of
11 trying to evaluate what the impact of dropping
12 ABT-980 was in terms of our expectations for
13 return and calculations for return; but,
14 ultimately, what we did do was using basically
15 the same structure bring in different compounds
16 and modifying royalties, milestone payments,
17 when we made our payments, et cetera.

18 Q. And that wound up pretty close, in fact, even
19 a little more favorable expected rate of
20 return for Hancock?

21 A. Yes.

22 MR. WEINBERGER: Okay. I think my time
23 is up so I would have liked more time, I would
24 have to say; but I did the best I could so....

Blewitt 11/17/2006 Deposition Exhibit 1

D's Exhibit 514

JOHN HANCOCK MUTUAL LIFE INSURANCE COMPANY
 Bond & Corporate Finance Group
 May 13, 1997

Private

Purchase Recommendation

GBSURP \$19.5 mm INDINS \$7.0 mm CSO80 \$3.0 mm

Summary

METABOLEX, INC.
 Hayward, CA

We are recommending the purchase of 4,375,000 Units consisting of (i) one share of Series C Convertible Preferred Stock of Metabolex, Inc. ("Metabolex" or the "Company") and (ii) one Put Right which will entitle the Holder to cause Abbott Laboratories to purchase the shares of Series C Preferred Stock between October 1, 2000 and April 30, 2004. The aggregate purchase price of the Units is \$29,531,250, or \$6.75 per share; the Put to Abbott is for \$32,812,500, or \$7.50 per share. The net proceeds to the Company from the sale of Units are anticipated to be approximately \$28 million. In addition, the Company will receive \$4.0 million from a concurrent sale of Series C Preferred Stock to Abbott. The Company will use approximately \$25.0 million of the combined proceeds to fund research and development of a combined Abbott/Metabolex drug discovery program during the next three years. The balance of the funds will be used to fund work on the Company's other research and development programs.

Metabolex is a second-stage biotechnology company that is focused on the discovery and development of new treatments for diabetes and related diseases. Diabetes is a devastating disease that affects approximately 16 million people in the U.S. and is estimated to cost the U.S. economy over \$100 billion annually. Since 1991, Metabolex has received over \$20 million in venture capital funding from Charter Venture Capital. Metabolex's primary research program involves a cellular pathway that the Company believes is the cause of insulin resistance. Insulin resistance, which is the inability of muscle and fat cells to properly absorb blood glucose, is widely believed to be the primary cause of diabetes. Based on the Company's progress with regard to this pathway, Abbott Laboratories, one of the 10 largest healthcare companies in the world, entered into a Collaborative Agreement with the Company in January 1997. The Agreement provides for a substantial commitment by Abbott to continue to develop Metabolex's research program and to develop new drugs for the treatment of diabetes.

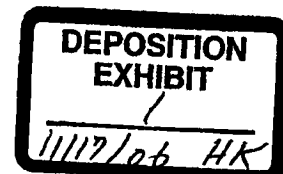
Our recommendation is based upon the strength of Metabolex's management and scientific team, the potential for substantial equity returns (based on the potential market size for diabetes pharmaceuticals), and the downside protection offered by the right to put the Preferred Stock to Abbott at a 3% premium to the purchase price.

Report Authors:

Anthony C. Urick, Second Vice President
 Stephen J. Blewitt, Senior Investment Officer
 D. Dana Donovan, Senior Investment Officer
 Sandeep D. Alva, Senior Investment Officer

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JOHN HANCOCK MUTUAL LIFE INSURANCE COMPANY
 Bond & Corporate Finance Group
 May 13, 1997

Private

Purchase Recommendation

GBSURP \$19.5 mm INDINS \$7.0 mm CSO80 \$3.0 mm

ISSUER:

Metabolex, Inc.

ISSUE:

4,375,000 Units consisting of one share of Series C Convertible Preferred Stock and one Put Right. The Preferred Stock will be convertible into shares of the Company's Common Stock at an initial rate of 1:1.

PRICE:

\$6.75 per Unit which provides an aggregate purchase price of \$29,531,250. The Original Purchase Price of each share of the underlying Series C Preferred Stock will be deemed to be \$4.50.

PUT RIGHT:

Each Unit will contain one Put Right which will entitle the holder to cause Abbott Laboratories to purchase the shares of Series C Preferred Stock between October 1, 2000 and April 30, 2004, at \$7.50 per share.

The Put Right will terminate upon the earliest to occur of:

- (i) an IPO at a price greater than or equal to \$10.125/share with proceeds to the Company of at least \$20 million;
- (ii) the Company's common stock exceeds \$10.125/share for any 20 consecutive trading days on any national securities exchange during the one year period commencing six months after the beginning of trading on such exchange;
- (iii) any merger, consolidation or reorganization in which the Company is not the surviving entity and the Series C Preferred are valued at an amount greater than or equal to \$10.125/share;
- (iv) when the holder has exercised a voluntary conversion of the Series C Preferred to Common Stock.

RATINGS:

As described under Transaction Summary on page four of this report, the Units have two components, (i) an Abbott obligation (valued at approximately \$25.5 million) – Abbott is rated Aa1 by Moody's and AAA by Standard & Poor, and (ii) an option to purchase stock of Metabolex (valued at approximately \$4.0 million) – which does not have a rating.

BROKER:

Lehman Brothers

SIC CODE:

8000 - Health Services

PARTICIPANTS:

John Hancock : \$29,531,250

HANCOCK PARTICIPANTS:

Listed above

USE OF PROCEEDS:

The net proceeds to the Company from the sale of Units are anticipated to be approximately \$28 million. In addition, the Company will receive \$4.0 million from the concurrent sale of Series C Preferred Stock to Abbott. The Company is required to use approximately \$25.0 million of the combined proceeds to fund research and development of a combined Abbott/Metabolex drug discovery

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 JHH 012336

program during the next three years. The balance of the funds will be used to fund work on the Company's other research and development programs, as well as capital expenditures, working capital and other general corporate purposes.

STATE OF INC.: Delaware

YIELD: 0%; however, assuming a Put to Abbott on October 1, 2000, the yield is 3%.

INTEREST: None

SPREAD: (375 bps) assuming a Put to Abbott on October 1, 2000.

CIRCLE DATE: April 18, 1997

AVERAGE LIFE: 3.5 years assuming a Put to Abbott on October 1, 2000.

DURATION: Approximately 3 years assuming a Put to Abbott on October 1, 2000.

SINKING FUND: Bullet, assuming a Put to Abbott on October 1, 2000.

TAKEDOWN DATE: Upon completion of documentation

CALL: Non-callable

HANCOCK HOLDINGS: None

RELATED HOLDINGS: None

FINANCIAL COVENANTS: None

REGISTRATION RIGHTS: Two demand registrations beginning 1/1/2000 or 180 days after a qualified IPO upon the request of 51% of the outstanding shares of Preferred Stock holders.

Unlimited "piggy-back" registration rights on all registrations of the Company.

ANALYST: Stephen J. Blewitt, Senior Investment Officer
D. Dana Donovan, Senior Investment Officer
Sandeep D. Alva, Senior Investment Officer

HOUSE COUNSEL: Amy Weed, Esq.

SPECIAL COUNSEL: Choate, Hall & Stewart

Report Authors:
Anthony C. Urick, Second Vice President
Stephen J. Blewitt, Senior Investment Officer
D. Dana Donovan, Senior Investment Officer
Sandeep D. Alva, Senior Investment Officer
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Transaction Summary

Metabolex is a second-stage biotechnology company that is focused on the discovery and development of new treatments for diabetes and related diseases. Since 1991, Metabolex has received over \$20 million in venture capital funding from Charter Venture Capital. In January 1997, the Company entered into a Collaborative Agreement with Abbott Laboratories to develop treatments for insulin resistance. In the Collaborative Agreement, which is described more fully below, Metabolex has agreed to raise approximately \$29.5 million from third-party investors to fund research and development costs of a combined Abbott/Metabolex drug discovery program during the next three years, and Abbott has agreed to provide liquidity to the third-party investors in the form of a Put Agreement that has a cash value of approximately \$32.8 million.

This transaction can be viewed in the following manner:

- (a) Unit Holders are paying approximately \$25.5 million for a 3.5 year Abbott obligation (calculated as the \$32.8 million Put Amount discounted at Treasuries plus 75 basis points for 3.5 years);
- (b) Unit Holders are paying approximately \$4.0 million (the difference between the \$29.5 million purchase price and the \$25.5 million value of Abbott Put), or 91 cents per share, for an option to purchase 4,375,000 shares of Metabolex stock at a strike price of \$7.50 per share. The option window is for a duration of 3½ years beginning in 3½ years. The estimated value of Metabolex's stock today is \$4.50/share based on the price that Abbott is acquiring shares concurrent with the offering of Units.

In essence, although the purchase price is approximately \$29.5 million, the amount that is "at risk" from an equity standpoint is only \$4 million. This structure permits Metabolex to sell its stock at a significant premium (\$6.75/share versus \$4.50/share) and allows Abbott to keep its potential investment in Metabolex off Income Statement until the Put is exercised.

Overview of Diabetes Disease and The Need for New Pharmaceutical Treatments

Diabetes is a major global health problem. The International Diabetes Federation estimates that over 100 million people worldwide are afflicted with this disease. Diabetes costs the American economy over \$100 billion annually, according to a study reported in the *Journal of Clinical Endocrinology and Metabolism*; health care expenditures for people with diabetes constitute about one in seven health care dollars spent in the U.S. In addition, the American Medical Association reports that the incidence of diagnosed diabetes as a percentage of the American population has tripled since 1958, and that the total number of diagnosed and undiagnosed cases has grown to about 16 million.

The two major types of diabetes are non-insulin dependent diabetes mellitus ("NIDDM"), also known as Type II or adult onset diabetes; and insulin-dependent diabetes mellitus ("IDDM"), also known as Type I or juvenile diabetes.

<u>Prevalence of Diabetes</u>		
	<u>NIDDM</u>	<u>IDDM</u>
Other Names:	Type II Adult Onset	Type I Juvenile
<u>Prevalence</u>		
U.S.	15 million	640,000
Developed World	40 million	3,600,000
Worldwide	100 million	9,000,000

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Type II diabetes, which accounts for 90-95% of the diabetes worldwide, is a chronic and incurable disease characterized by elevated levels of glucose in the blood. The human body requires glucose, a simple form of sugar, for energy. However, when blood glucose levels are not controlled within a relatively narrow range, severe complications can result. Diabetes is the leading cause of adult blindness, lower limb amputations, and kidney failure in the U.S. In addition, most type II diabetics are obese, have elevated cholesterol or triglyceride levels, and suffer from hypertension. Mortality in most diabetics is caused by heart disease or stroke. The life expectancy of a diabetic is 30-50% less than a non-diabetic person from the time he or she is diagnosed.

In non-diabetics, an increase in blood glucose signals special cells in structures in the pancreas known as islets of Langerhans to secrete the hormone insulin into the bloodstream. Insulin lowers blood glucose levels principally by signaling skeletal muscle cells and fat cells to take up glucose and by signaling liver cells to stop glucose production. NIDDM is thought to involve the inability of target tissues to respond normally to insulin (a condition known as insulin resistance), and the inability of the pancreas to produce sufficient insulin to counteract the high blood glucose levels that occur as the result of insulin resistance.

CURRENT TREATMENT FOR DIABETES

After diagnosis, the first course of therapy for Type II diabetics is to try to control hyperglycemia through diet and exercise. If this fails to achieve glycemic control, the patients typically begin medication. The two leading medications for Type II diabetes have been insulin and a class of oral tablets called sulfonylureas. Each of these drugs reduces glucose levels by increasing insulin levels. Most patients initially take sulfonylureas, which work by stimulating the production of insulin in the pancreas. Over time, many diabetics taking sulfonylureas lose their ability to control glucose levels, and others lose their ability to secrete insulin. In either case, the diabetic must begin daily insulin injections. Neither sulfonylureas nor insulin injections reverse insulin resistance, but increase insulin levels above normal.

Recently, Metformin has been used to improve glycemic control in diabetics without increasing insulin levels by limiting the output of glucose by the liver. The limited effectiveness and serious side-effects of Metformin, however, have prevented its widespread usage. Acarbose is used to reduce blood glucose by blocking the digestion of carbohydrates in the stomach and intestine, thereby delaying the absorption of glucose into the bloodstream. Again, Acarbose does not precisely control blood glucose and causes significant side-effects for patients. Pramlintide, which is currently being investigated as a drug that reduces blood glucose, is believed to limit the influx of glucose into the blood from the gastrointestinal tract. The expected impact of pramlintide will be lower peak post-meal blood glucose levels, but not normal blood glucose levels.

Troglitazone (introduced in 1997 in the U.S. as Rezulin) is the first drug to significantly impact insulin resistance and will likely be successful. Troglitazone causes muscle and fat cells to increase their number of glucose transporter proteins which then act to absorb blood glucose into the cells. The significance of Troglitazone is its ability to reduce blood glucose without increasing insulin levels and without significant side-effects. However, Troglitazone does not correct the patient's insulin resistance or return glucose levels to normal.

Metabolex, Inc.

Metabolex is engaged in the discovery and development of new pharmaceuticals for the treatment of diabetes and related metabolic diseases. Metabolex, and its predecessors, have been in existence since 1988. However, the Company began to follow its current path in 1991 when Tom Glaze, Jerry Olefsky and Charter Venture Capital became involved. Metabolex currently has product development programs in three

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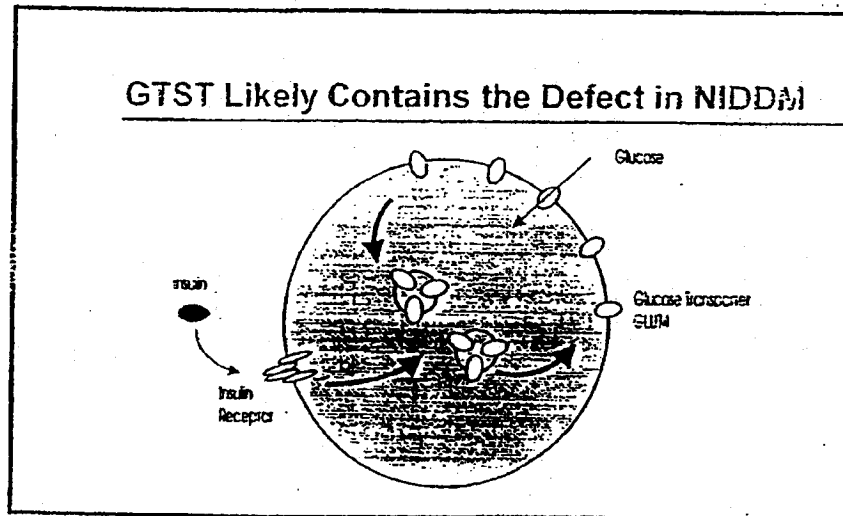
areas; the most significant program that Metabolex is developing involves intracellular insulin-mediated Glucose Transport Signal Transduction² ("GTST")

Glucose Transport Signal Transduction

Metabolex believes that the GTST pathway, a model defined by the Company and its Scientific Advisory Board members, contains the defect that causes insulin resistance. The GTST pathway links the insulin receptor on the cell surface to the insulin-responsive glucose transporter protein, GLUT4. Signals produced by the binding of insulin to its receptor travel along the GTST pathway and trigger the movement of GLUT4 from an intracellular compartment to the cell surface. There GLUT4 controls the entry of glucose into the cell. In insulin-resistant individuals, insulin cannot efficiently trigger the movement of GLUT4 to the cell surface. The Company believes that a block in either the insulin signaling pathway leading to GLUT4 movement to the cell surface or a defect in the GLUT4 "machinery" represents the fundamental defect causing insulin resistance in NIDDM. Metabolex's goal is to find drug leads that increase the amount of GLUT4 moved to the cell surface, which will lower glucose levels and address NIDDM at the root cause of the problem.

In January 1997 Metabolex initiated a joint research program with Abbott aimed at developing new treatments for diabetes based on Metabolex's knowledge in the area of GTST. Under the terms of the agreement, Metabolex is responsible for identifying molecular targets involved in the mechanisms of insulin resistance and developing screening assays based on these targets. These assays will be used by Abbott for high-throughput screening of compound libraries. Following the identification of hits from screening efforts, Metabolex and Abbott will evaluate their effect on insulin action, glucose transport, insulin resistance and NIDDM. This will permit the companies to quickly evaluate leads and select those that are specific and appropriate for further evaluation and development as drug candidates.

THE DESIRED RESULT OF THE GTST PROGRAM IS TO IDENTIFY THE DEFECT IN THE GTST PATHWAY AND TO FIND A DRUG TO DIRECTLY TREAT THAT DEFECT THEREBY IMPROVING THE INSULIN RESISTANCE CONDITION OF DIABETICS.



² Signal transduction is the cellular communication system that regulates the way cells grow, differentiate, and respond to extracellular conditions.

Summary of Abbott Collaborative Agreement -- HIGHLY CONFIDENTIAL

1. **Scope**
 - Mutually exclusive research program for glucose transport signal transduction pathway
 - First right of refusal for insulin resistance diabetes pharmaceuticals
 - Metabolex first right of refusal for compounds outside of diabetes field that Abbott doesn't pursue
2. **Finances - Overall**
 - Metabolex will finance approximately \$28 million net with Abbott guaranteeing put
 - Abbott will purchase \$4 million of Metabolex's Series C Convertible Preferred Stock
 - Abbott funds all costs after the third year (including research, development, clinical, manufacturing, marketing and sales), estimated to be in excess of \$250 million through phase III clinical trials
 - Metabolex receives \$17 million in milestone payments per compound through approval
 - Metabolex receives royalties on product sales from the collaboration as follows:

\$ 0 - 100 million	6%
\$100 - 250 million	8%
\$250 - 500 million	10%
\$500+ million	12%
3. **Finances - Research**
 - Abbott will supply 106 Full Time Equivalents ("FTE's") over three years (\$15 million net cost)
 - Metabolex will supply 48 FTE's over three years
 - Metabolex will fund \$4 million of third party research (principally at Universities)
 - Abbott funds all expenses after the third year

Metabolex -- Other Research and Development Projects

Metabolex is actively pursuing two other research and development programs in the area of diabetes:

(i) islet transplantation using a proprietary encapsulation technology to significantly increase the success rate of such transplants. This program is directed towards Type I diabetics -- those patients for whom islets in the pancreas that produce insulin have been destroyed by an autoimmune attack, resulting in an absolute deficiency of insulin.

(ii) an orally active natural product mixture called Insulin Potentiating Factor ("IPF"), which has been shown to lower blood glucose in diabetic and insulin resistant rodents. IPF has been licensed to the Ross Laboratories Division of Abbott for the possible use in Ross' nutritional product Glucerna. Metabolex will receive an upfront fee of \$500,000 from Ross and will receive royalties if Ross uses IPF in any of its nutritional products.

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Abbott Laboratories

Abbott Laboratories is one of the leading healthcare products companies in the world. Abbott's over \$11 billion in revenues in 1996 came from four diverse segments: pharmaceuticals, nutritionals, hospital/laboratory supply, and diagnostics, in which Abbott has leading market positions.

Pharmaceuticals: Abbott has a broad base of ethical drugs, including clarithromycin (marketed globally as Biaxin, Klacid and Klaricid), an antibiotic for upper and lower respiratory tract infections, erythromycin, Hytrin, an anti-hypertension drug.

Nutritionals: Abbott is a leader in both infant and adult nutritional products. Abbott's infant formula line includes Similac and Isomil brands. Abbott has a number of medical nutritionals for hospital and nursing homes, including Glucerna (for patients with glucose intolerance). Abbott also markets Ensure, a nutritional drink to supplement daily food intake.

Hospital Supply: Abbott is the second largest hospital supply company, manufacturing and distributing anesthesia and pain management products, intravenous and other fluid systems, and a number of other products, such as injection systems.

Diagnostics: Abbott is the leader in immunodiagnostic systems and reagent sales, and is also a leading manufacturer and distributors of products to detect HIV, chlamydia, and a number of other diseases.

In May 1996, Abbott acquired MediSense for about \$876 million. MediSense makes blood glucose self-testing devices for diabetics, and has approximately \$170 million in annual revenues. While MediSense provides an important addition to Abbott's diagnostics segment, the acquisition of MediSense was a significant step in Abbott's decision to build a strong position in diabetes. Abbott's agreement with Metabolex provides the drug discovery component for Abbott's full line of diabetes products (pharmaceuticals, diagnostics, nutritionals).

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Strengths

- **Management and Scientific Team.** Abbott Laboratories and John Hancock's independent science consultant (Allan B. Haberman, Ph.D.) have each indicated that Metabolex's Scientific Advisory Board ("SAB") are worldwide leaders in the field of diabetes research and are networked better than any other research group in their field. Jerry Olefsky, the Chairman of the SAB and a director of the Company, was the principal scientist to demonstrate that insulin resistance is the primary defect to cause diabetes and that insulin stimulation of glucose uptake is defective. Mr. Olefsky's work is the basis for the Company's GTST program. Other SAB members have specific expertise in glucose transport and signal transduction. The strength of the Company's Scientific Advisory Board has enabled the Company to enter into exclusive agreements with several Universities and other research institutions that have developed broad diabetes research programs, and has enabled the Company to hire exceptional scientists in the field of diabetes.

Metabolex's expertise in molecular biology will be complemented by Abbott's expertise in chemistry, pharmacology and toxicology. The GTST program is the largest research program currently under development at Abbott. In addition to the \$32.8 million Put obligation, Abbott is committing \$15 million of direct internal research funds. Metabolex will be the cornerstone of Abbott's diabetes program.

- **Potential Market Size for Improved Diabetes Drug.** The estimated cost of diabetes to the U.S. economy is \$100 billion. Only \$3 billion of that total is related to pharmaceutical products related to the treatment of diabetes; the remainder relates to hospital and other medical costs related to treatment of the effects of diabetes, such as blindness, kidney failure, cardiovascular disease, etc., and loss of production. One or more drugs that can effectively treat insulin resistance or diabetes and can prevent the later stage diseases could easily expand the allocation of money spent on drugs to \$10 billion or more (which would be consistent with the impact of hypertension medications during the 1980s). Rezulin, which is expected to provide only limited improvement of blood glucose levels in diabetics is expected to be a \$1 billion drug in the U.S.

If Metabolex and Abbott find one drug that has the market potential of Rezulin, Metabolex will receive in excess of \$100 million per year in revenues for that drug until another treatment is developed or the patent runs out, and Metabolex's market capitalization could exceed \$400 million. [Amylin, a late-stage biotechnology company that is developing a drug (pramlintide) that reduces post-meal blood glucose levels, has a market value of approximately \$450 million. Pramlintide is expected to be a \$1 billion drug if it succeeds in clinical trials.]

- **Transaction offers downside protection and significant upside potential.** The Put Right associated with the Units offers downside protection to the Unit Holders if Metabolex's research program does not succeed or if Abbott is not able to develop a suitable drug. Unit Holders will have the ability to put their Series C Convertible Preferred Shares of Metabolex to Abbott, a "AAA/Aa1" rated company, beginning three and one-half years after closing for a period of 3½ years. [NOTE: the Put Right will terminate under certain conditions in which the Metabolex shares are valued at 150% of the Unit Holders purchase price.] The start of the Put Period coincides with the initial termination date of the Collaborative Agreement between Abbott and Metabolex, and the time that Metabolex will require substantial funds to continue its research programs. The significance of these factors is that the Unit Holders will know (a) whether Abbott will continue to commit funds to the GTST research program, and (b) whether Metabolex has been able to raise additional capital (and at what price), before an initial decision on whether to put the stock needs to be made.

Based on market comparables and the potential value of a "blockbuster" drug, Metabolex could obtain a market value of equity of \$400 million or more during the next five years. At that level, the value of Units would be worth in excess of \$80 million. Based on that valuation, and a five-year time horizon, the IRR on the Units would be approximately 22% p.a., and the IRR on the "at risk" equity portion of the Units would be approximately 48% p.a.

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Risks and Mitigating Factors

- **No Suitable Drugs are discovered by Abbott/Metabolex.** Metabolex is confident that it will identify all molecules involved in the GTST pathway (it has identified several of the dozen or so that are expected to be found). However, despite Abbott's large library of drug compounds and their expertise in combinatorial chemistry, it is possible that Abbott/Metabolex will not find a drug that improves insulin-sensitivity and that is safe for patient usage. If this happens, and the Put Right has not been terminated, the Unit Holders will only receive a return of principal plus a fixed 11.1% premium (calculated as \$7.50/\$6.75)

The greater risk to Unit Holders is that within the first few years the Put Right terminates (when Metabolex's stock reaches a price in excess of \$10.125/share) (possibly based on the promise of a potential drug candidate having been identified) and then the Company's stock drops significantly due to the failure of Abbott/Metabolex to demonstrate efficacy or safety for such drug candidate. In that case, the Unit Holders would have effectively purchased Metabolex's stock for a large premium over the current market price (\$6.75 versus \$4.50). This risk can, however, be evaluated and mitigated at the time of a public offering by the Company, or any time thereafter. If the stock price exceeds \$10.125, the Unit Holders can choose to sell shares equal to the value of the Put and hold onto the remaining shares to participate in any potential appreciation of the stock.

Example

Stock Price = \$11/share in 2 years

Value of Put in 2 years = \$29.4 million

Sell 2.7 million shares at \$11/share to receive \$29.4 million

Hold remaining 1.7 million shares which have original basis of \$4 million and current value of \$18.5 million

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PRINCIPAL STOCKHOLDERS

		<u>Percentage of Class of Shares Owned</u>		<u>Percentage of Total Shares Owned</u>	
	<u>Shares Beneficially Owned</u>	<u>Prior to Offering</u>	<u>After Offering</u>	<u>Prior to Offering</u>	<u>After Offering</u>
<u>PREFERRED STOCKHOLDERS</u>					
Charter Venture Capital	10,691,270	100%	69.4%	70.9%	53.9%
Abbott Laboratories	888,888	--	5.7%	--	4.4%
John Hancock	<u>4,375,000</u> 15,955,158	--	24.8%	--	21.5%
<u>COMMON STOCKHOLDERS</u>					
Thomas A. Glaze	1,130,000	25.8%	25.8%	7.5%	5.7%
David W. Pritchard	437,500	10.0%	10.0%	2.9%	2.2%
Michael P. Czech, Ph.D.	270,000	6.2%	6.2%	1.8%	1.4%
Andre de Bruin	50,000	1.1%	1.1%	.3%	.3%
John D. Dickman	70,000	1.6%	1.6%	.5%	.4%
Jerrold M. Olefsky	<u>715,000</u> 2,672,500	16.3%	16.3%	4.7%	3.5%
Total Shares Pre-Offering (fully diluted)	15,070,947				
Total Shares Post-Offering (fully diluted)	20,334,836				

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SCIENTIFIC ADVISORY BOARD

Jerrold M. Olefsky, M.D., Chairman, is Professor of Medicine and head of the Division of Endocrinology-Metabolism at the University of California, San Diego School of Medicine, and was a co-founder of Metabolex. He was awarded the American Diabetes Association's Eli Lilly Award for Diabetes Research in 1980, the award given to the most outstanding young (under 45) diabetes researcher, and was President of the American Federation for Clinical Research. He has published over 100 papers and is currently on the Editorial Board of Endocrinology and Diabetes. He is considered a leader in the field of insulin resistance. Dr. Olefsky received his M.D. from the University of Illinois. He was at Stanford University School of Medicine from 1970-1978, and was a Professor of Medicine at the University of Colorado School of Medicine from 1979 to 1983, where he was head of the Division of Endocrinology and Metabolism.

Morris J. Birnbaum, M.D., Ph.D., is a professor of medicine at the University of Pennsylvania School of Medicine. He has published over 50 papers and is considered a leader in the field of glucose transport. Dr. Birnbaum received his Ph.D. in Biology and his M.D. from Brown University. He was at Harvard Medical School from 1987-1994. In 1994 he moved to the University of Pennsylvania where he is currently Professor of Medicine, Cell and Developmental Biology and an Associate Investigator at the Howard Hughes Medical Institute. In 1996 he was named Director of the Cox Institute.

Michael P. Czech, Ph.D., is currently serving as Vice President of Research and Development of Metabolex while on leave of absence from his position as Director for the Molecular Medicine Program at the University of Massachusetts Medical Center in Worcester, Massachusetts. He was awarded the American Diabetes Association's Eli Lilly Award for Diabetes Research in 1982, and has published over 200 papers. He is considered a leader in the research of glucose transport. Dr. Czech received his M.S. in Biochemistry from Duke, and his Ph.D. in Biochemistry from Brown University. He was at Brown University in Medical Sciences from 1974-1981, when he moved to assume the Chairmanship of the University of Massachusetts Biochemistry and Molecular Biology Department.

Raymond V. Rajotte, Ph.D., is the director of the Surgical-Medical Research Institute, at the University of Alberta, Canada. Dr. Rajotte has spent over 20 years at the University of Alberta in the Department of Medicine and Biomedical Engineering. He has been a pioneer in the study of islet isolation and cryopreservation techniques, and has over 200 publications in the field. He received his B.S., M.S. and Ph.D. in Biomedical Engineering at the University of Alberta.

Arthur H. Rubenstein, M.D., is the chairman of the Department of Medicine and the Lowell T. Coggeshall Distinguished Service Professor of Medical Sciences at the University of Chicago. He won the American Diabetes Association's Eli Lilly Award in 1973, and the American Diabetes Association's Banting Medal Award in 1983. This award is given to one person each year in recognition of their significant long term contributions to the understanding of diabetes. Dr. Rubenstein has published over 300 papers, and was a pioneer in the understanding of islet structure and function. He received his medical degree at the University of Witwatersrand in South Africa in 1960, and moved to the University of Chicago in 1967.

Steven E. Shoelson, M.D., Ph.D., is an associate professor at Harvard Medical School, and an Investigator at the Joslin Diabetes Center. He has published nearly 100 papers, and is considered a leader in the field of diabetes signal transduction. He won the Diabetes Care Research Award from Boehringer Mannheim and the Juvenile Diabetes Foundation in 1996. Dr. Shoelson received his Ph.D. in Bioorganic Chemistry and his M.D. from the University of Chicago.

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MANAGEMENT

Information with respect to the executive officers, key employees, and directors of the Company is set forth below:

<u>Name</u>	<u>Age</u>	<u>Position</u>
Thomas A. Glaze	49	President, Chief Executive Officer, and Director
Michael P. Czech, Ph.D.	51	Vice President, Research and Development
David W. Pritchard	43	Vice President, Business Development & Finance, Chief Financial Officer
Michael Flashner, Ph.D.	54	Senior Director, Development
Kenneth L. Luskey, M.D.	45	Senior Director, Research
A. Barr Dolan	47	Chairman of the Board
Andre de Bruin	49	Director
John D. Diekman, Ph.D.	54	Director
Jerrold M. Olefsky, M.D.	54	Director

Thomas A. Glaze, Chief Executive Officer and President. Mr. Glaze was a co-founder of Metabolex, and has served as a senior executive in the biotechnology industry for over 15 years. He was a founder of Monoclonal Antibodies, Inc. in 1979, and served as its president and chairman. After Monoclonal Antibodies Inc. merged with Quidel Corp. in 1991, Mr. Glaze served as its chairman, and still serves on Quidel's Board of Directors. He has an industrial engineering degree from Georgia Institute of Technology and an M.B.A. and M.S. from Stanford University.

Michael P. Czech, Ph.D.

David W. Pritchard, Vice President of Business Development and Finance, Chief Financial Officer. Mr. Pritchard joined Metabolex in 1992. Prior to that he was one of the founding managers of Triton Biosciences, which developed Betaseron® for multiple sclerosis (Fortune Magazine's Drug of the year in 1994) and Fludara® for chronic lymphocytic leukemia. He served Triton's president and later chairman in the positions of business development, finance, planning, marketing, sales, and general management. Prior to that he worked seven years for Shell Chemical in the technical sales, marketing, and business management functions. Mr. Pritchard has a B.S. in Chemical Engineering from Cornell University and an M.B.A. from Stanford University.

Michael Flashner, Ph.D., Senior Director, Development. Dr. Flashner joined Metabolex in 1992. He previously worked for Triton Biosciences (later Berlex Laboratories/Schering AG), first as group leader of the protein chemistry department, then as manager of the biochemical development group. His ultimate role at Triton was the director of the Betaseron project from 1987 until that drug's filing for approval with the FDA in 1991. Dr. Flashner was an associate professor of chemistry at the State University of New York at Syracuse from 1973-1982. He received his M.A. and Ph.D. in Biological Chemistry from the University of Michigan.

Kenneth L. Luskey, M.D., Senior Director, Research. Dr. Luskey joined Metabolex in early 1994, after serving as director of metabolic diseases for Scios Nova, where he was involved in developing potential diabetes therapies such as GLP-1. Prior to this Dr. Luskey was on the faculty at the University of Texas Southwestern Medical School in the Departments of Internal Medicine and Molecular Genetics. His research focused on the molecular aspects of diabetes and cholesterol metabolism. Dr. Luskey received his B.A. in Biology and his M.D. at the University of Texas

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Southwestern Medical School in Dallas in 1976, and is Board Certified in Internal Medicine, Endocrinology, and Metabolism.

A. Barr Dolan, Chairman, is a General Partner of Charter Ventures of Palo Alto, California. He was a co-founder of Charter Ventures, and prior to that held senior positions with Arthur Andersen and C.M. Capital. Mr. Dolan serves on the board of directors of Univax Biologics and several private companies. He has a B.A. in Biochemistry from Cornell University, an M.A. in Engineering and Applied Physics from Harvard University, and an M.B.A. from Stanford University.

Andre de Bruin is Chairman, President and Chief Executive Officer of Somatogen, Inc. His experience as a manager within the healthcare industry spans over 27 years on three continents. Previously he was Chairman, President and CEO of Boehringer Mannheim Corporation, the U.S. subsidiary of Corange, Ltd. Prior to that he was employed by Miles Laboratories, Inc. in South Africa, the United Kingdom, and the United States in various finance, sales, marketing and general management positions. Mr. de Bruin holds an M.B.A. degree from the University of Potchefstroom in South Africa.

John D. Diekman, Ph.D., is Chairman of the Board and Chief Executive Officer of Affymetrix, Inc. He was the past chairman and managing director of Affymax-N.V. until it was acquired by Glaxo. Dr. Diekman has more than 25 years of life sciences experience, including serving as President of Monoclonal Antibodies, Inc., Salutar, and Zeecon. Dr. Diekman has a Ph.D. in Chemistry from Stanford University. He is a director of Quidel Corp. and the Scripps Research Institute.

Jerrold M. Olefsky, M.D.

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CONSOLIDATED BALANCE SHEET**ABBOTT LABORATORIES**

	December 31		
<i>Assets (dollars in thousands)</i>	1996	1995	'4
Current Assets:			
Cash and cash equivalents	\$ 110,209	\$ 281,197	\$ 290,272
Investment securities	12,875	34,500	25,056
Trade receivables, less allowances of - 1996: \$153,424; 1995: \$157,990; 1994: \$128,929	1,708,807	1,563,038	1,468,519
Inventories -			
Finished products	627,449	560,637	514,715
Work in process	269,443	238,943	218,643
Materials	341,313	311,361	284,833
Total inventories	1,238,205	1,110,941	1,018,191
Prepaid income taxes	708,482	651,436	549,091
Other prepaid expenses and receivables	702,404	585,599	525,199
Total Current Assets	4,480,902	4,226,711	3,876,328
 Investment Securities Maturing after One Year	 665,553	 422,547	 316,195
 Property and Equipment, at Cost:			
Land	156,038	152,401	145,634
Buildings	1,621,036	1,531,202	1,349,668
Equipment	6,142,139	5,518,210	4,764,296
Construction in progress	451,070	560,629	7 76
	8,370,283	7,762,442	7,053,604
Less: accumulated depreciation and amortization	3,908,740	3,512,904	3,132,754
Net Property and Equipment	4,461,543	4,249,538	3,920,850
 Net Intangible Assets	 979,793	 155,580	 151,241
 Deferred Charges and Other Assets	 537,809	 358,204	 259,110
	\$11,125,600	\$9,412,580	\$8,523,724

The accompanying notes to consolidated financial statements are an integral part of this statement.

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CONSOLIDATED BALANCE SHEET**ABBOTT LABORATORIES**

	December 31		
Liabilities and Shareholders' Investment (dollars in thousands)	1996	1995	1994
Current Liabilities:			
Short-term borrowings and current portion of long-term debt	\$ 1,383,727	\$1,049,863	\$ 772,503
Trade accounts payable	923,018	755,921	671,100
Salaries, wages and commissions	322,292	286,186	270,539
Other accrued liabilities	1,206,552	1,217,016	1,140,154
Dividends payable	185,866	165,354	152,515
Income taxes payable	322,262	315,974	469,055
Total Current Liabilities	4,343,717	3,790,314	3,475,866
Long-Term Debt	932,898	435,198	287,091
Other Liabilities and Deferrals:			
Deferred income taxes	153,279	67,993	55,597
Other	875,524	722,228	655,770
Total Other Liabilities and Deferrals	1,028,803	790,221	711,367
Shareholders' Investment:			
Preferred shares, one dollar par value			
Authorized - 1,000,000 shares, none issued			
Common shares, without par value			
Authorized - 1,200,000,000 shares			
Issued at stated capital amount -			
Shares: 1996: 784,037,858; 1995: 797,021,211; 1994: 813,046,602	694,380	581,562	505,170
Earnings employed in the business	4,262,804	3,926,917	3,652,434
Cumulative translation adjustments	(78,770)	(55,646)	(51,124)
	4,878,414	4,452,833	4,106,480
Less:			
Common shares held in treasury, at cost -			
Shares: 1996: 9,588,632; 1995: 9,714,379; 1994: 9,766,880	50,605	51,268	51,545
Unearned compensation - restricted stock awards	7,627	4,718	5,535
Total Shareholders' Investment	4,820,182	4,396,847	4,049,400
	\$11,125,600	\$9,412,580	\$8,523,724

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CONSOLIDATED STATEMENT OF EARNINGS**ABBOTT LABORATORIES**

	Year Ended December 31		
<i>(dollars in thousands except per share data)</i>	1996	1995	94
Net Sales	\$11,013,460	\$10,012,194	\$9,156,009
Cost of products sold	4,731,998	4,325,805	3,993,831
Research and development	1,204,841	1,072,745	963,516
Selling, general and administrative	2,459,560	2,230,740	2,054,455
Total Operating Cost and Expenses	8,396,399	7,629,290	7,011,802
Operating Earnings	2,617,061	2,382,904	2,144,207
Interest expense	95,445	69,532	49,722
Interest income	(44,521)	(51,783)	(36,907)
Other (income) expense, net	(103,413)	(30,164)	(35,298)
Earnings Before Taxes	2,669,550	2,395,319	2,166,690
Taxes on earnings	787,517	706,619	650,007
Net Earnings	\$ 1,882,033	\$ 1,688,700	\$1,516,683
Earnings Per Common Share	\$2.41	\$2.12	\$1.87
Average Number of Common Shares Outstanding	781,247,000	795,362,000	812,236,000

The accompanying notes to consolidated financial statements are an integral part of this statement.

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Metabolex, Inc.
(A development stage company)

Balance Sheets

	December 31,	
	1996	1995
Assets		
Current asset – cash	\$ 250,479	\$ 86,518
Note receivable from related parties (including interest of \$3,466 in 1995)	–	23,466
Equipment, net	179,039	147,242
Other assets	30,316	25,205
	<u>\$ 459,834</u>	<u>\$ 282,431</u>
Liabilities and stockholders' equity (net capital deficiency)		
Current liabilities:		
Accounts payable	\$ 534,531	\$ 585,092
Accrued liabilities	155,413	136,396
Payable to Abbott Laboratories	500,000	–
Notes payable to stockholder (including interest of \$10,000 in 1996 and \$8,000 in 1995)	35,000	33,000
Total current liabilities	<u>1,224,944</u>	<u>754,488</u>
Commitments and contingencies		
Stockholders' equity (net capital deficiency):		
Preferred stock, \$0.001 par value; 11,871,500 shares authorized in 1996 and 1995, issuable in series; 10,068,770 convertible preference shares issued and outstanding in 1996 (8,410,372 shares in 1995); aggregate liquidation preference of \$22,777,326 in 1996; at amounts paid in	22,690,872	18,753,786
Common stock, \$0.001 par value; 17,871,500 shares authorized in 1996 and 1995; 1,934,717 shares issued and outstanding in 1996 (1,745,911 shares in 1995); at amounts paid in	141,061	93,859
Notes receivable from stockholders	(96,250)	(55,000)
Deficit accumulated during the development stage	(23,500,793)	(19,264,702)
Total stockholders' equity (net capital deficiency)	<u>(765,110)</u>	<u>(472,057)</u>
	<u>\$ 459,834</u>	<u>\$ 282,431</u>

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Metabolex, Inc.
(A development stage company)

Statements of Operations

	<u>Year ended December 31.</u>		<u>Period from inception (October 5, 1988) to December 31,</u>
	<u>1996</u>	<u>1995</u>	<u>1996</u>
Revenue:			
Contract research revenues	\$ 159,682	\$ -	\$ 159,682
Operating costs and expenses:			
Research and development	3,075,365	3,381,479	16,085,469
General and administrative	1,229,861	1,239,653	6,761,530
Total operating costs and expenses	4,305,226	4,621,132	22,846,999
Loss from operations	(4,145,544)	(4,621,132)	(22,687,317)
Interest expense, net	(90,547)	(136,578)	(791,476)
Net loss	<u>\$(4,236,091)</u>	<u>\$(4,757,710)</u>	<u>\$(23,478,793)</u>

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Metabolex, Inc.
(A development stage company)

Statements of Cash Flows

Increase (decrease) in cash

	Year ended December 31,		Period from inception (October 5, 1988) to December 31,
	1996	1995	1996
Cash flows from operating activities			
Net loss	\$(4,236,091)	\$(4,757,710)	\$(23,478,793)
Adjustments to reconcile net loss to net cash used by operating activities:			
Depreciation and amortization	105,301	108,310	451,576
Interest on notes payable converted into preferred stock	124,118	133,610	726,905
Noncash expense from issuance of common stock	-	6,500	6,500
Changes in assets and liabilities:			
Notes receivable	23,466	-	23,466
Other assets	(5,111)	(5,882)	(30,316)
Accounts payable	(48,061)	(208,089)	517,195
Accrued liabilities	19,017	(3,925)	155,413
Other	2,000	400	(46,216)
Net cash used by operating activities	<u>(4,015,361)</u>	<u>(4,726,786)</u>	<u>(21,674,270)</u>
Cash flows from investing activities			
Purchases of equipment	<u>(137,098)</u>	<u>(30,932)</u>	<u>(610,779)</u>
Cash flows from financing activities			
Payable to Abbott Laboratories	500,000	-	500,000
Net proceeds from notes payable	3,675,000	4,800,000	21,822,521
Issuance costs on conversion of notes payable to preferred stock	(782)	(7,780)	(28,554)
Net proceeds from issuances of preferred stock	138,750	31,250	170,000
Net proceeds from issuances of common stock	3,452	13,098	75,570
Repurchase of common stock from officer/stockholder	-	(1,217)	(4,009)
Net cash provided from financing activities	<u>4,316,420</u>	<u>4,835,351</u>	<u>22,535,528</u>
Net increase (decrease) in cash	163,961	77,633	250,479
Cash at beginning of period	86,518	8,885	-
Cash at end of period	<u>\$ 250,479</u>	<u>\$ 86,518</u>	<u>\$ 250,479</u>
Supplemental schedule of noncash investing and financing activities			
Settlement of note receivable from officer/stockholder exchanged for repurchase of common stock	\$ -	\$ -	\$ 57,750
Acquisition of equipment pursuant to capital lease obligations	\$ -	\$ -	\$ 19,836
Settlement of amount payable by the issuance of common stock	\$ 2,500	\$ -	\$ 2,500
Notes payable converted into preferred stock	<u>\$ 3,799,118</u>	<u>\$ 4,800,000</u>	<u>\$ 21,946,639</u>

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D's Exhibit 515

JOHN HANCOCK
Bond and Corporate Finance Group
June 5, 1998

Private

REPORT OF PURCHASE
SIG-3

COMPANY: ALZA CORPORATION (Boston Institutional Tax Credit XVD)
Palo Alto, California

ISSUE: \$6,518,370.00 Promissory Notes due 1/1/2007

RATINGS: JH: Baa3 Moody's: BAA3 S&P: BBB-

BROKER: NDH Capital Corp.

SIC CODE: 2830 -- Pharmaceuticals

HANCOCK
PARTICIPANTS:

<u>ACCT.</u>	<u>PAR AMT.</u>	<u>PRICE</u>	<u>PRINCIPAL</u>
<u>SIG-3</u>	\$6,518,370	75.709	\$4,935,021

TRADE DATE: May 21, 1998

DELIVERY DATE: May 29, 1998

YIELD: BTE: 7.28% DCF: 7.15%

SPREAD: +150 F.P. vs. 5 3/4% 4/03 US Treasury

TERMS: Maturity: January 1, 2007

Average Life: 4.4 years
Modified: 3.4 years
Macauleys: 3.8 years

CASH FLOW: 1/1/99 -- 1/1/2007 --- See Schedule Attached

OPTIONS: Non-callable

HANCOCK
HOLDINGS: \$36,152,981.76 (including this purchase)

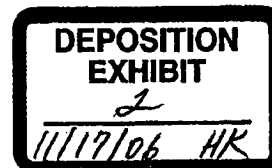
ANALYST: S. Mark Ray, Senior Investment Officer
Stephen J. Blewitt, Senior Investment Officer

COUNSEL: Richard J. Smith, Esq.

Report Authors:

Anthony C. Urick, Second Vice President
Stephen J. Blewitt, Senior Investment Officer
S. Mark Ray, Senior Investment Officer
Daniel J. Ahlin, Administrative Assistant

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JHI 012446



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D's Exhibit 516

JOHN HANCOCK MUTUAL LIFE INSURANCE COMPANY
 Bond and Corporate Finance Group
 June 10, 1998

Private

Purchase Recommendation

GBSA	\$3.0 million	CSO80	\$2.0 million	INDINS	\$4.0 million
GRPINS	\$0.5 million	IQA	\$4.5 million	JHLICOA	\$0.5 mm
BOLI	\$3.0 million	SIG 1A	\$5.0 million		
UNIVRSL	\$1.0 million	GM HRCD (SA 86)	\$1.5 million		

Summary

**Purdue Pharma L.P., The Purdue Frederick Company, Norwell Land Company,
 The Purdue Pharma Company, Purdue Associates L.P., PRA Holdings, Inc.,
 Purdue Pharma Inc., and Purdue Associates Inc.
 Norwalk, CT**

We are recommending the purchase of \$25 million of a \$80 million issuance of 7.03% Senior Notes due 2003 of The Purdue Frederick Company ("Purdue" or the "Company"). Proceeds from the Notes will be used to repay existing indebtedness of approximately \$52.6 million, to fund planned development projects and for general corporate purposes.

Purdue Pharma L.P., The Purdue Frederick Company, Norwell Land Company, The Purdue Pharma Company, Purdue Associates L.P., PRA Holdings, Inc., Purdue Pharma Inc., and Purdue Associates Inc. (collectively, "Purdue" or the "Company") are part of a worldwide group of associated pharmaceutical companies. The Company has developed and is now an important factor in the strong opioid analgesic market. Its two main products, MS Contin and OxyContin accounted for \$269 million in revenues in 1997, which was 45% of the strong opioid analgesic market. Purdue and its related subsidiaries are privately-owned companies which are wholly-owned, both directly and indirectly through family trusts and holding companies, by the family of Mortimer D. Sackler, M.D. and by the family of Raymond R. Sackler, M.D. For the fiscal year ended December 31, 1997, Purdue reported \$377 million in revenues and net income of \$32 million.

Our recommendation is based upon the Company's strong position in the growing opioid analgesic market and historically stable portfolio of products.

Report Authors:

Anthony C. Urlick, Second Vice President
 Stephen J. Blewitt, Senior Investment Officer
 Kevin M. Crosby, Junior Analyst
 (t:/industri/sjb/pur-yo1.doc)

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 JHJ 012404



JOHN HANCOCK MUTUAL LIFE INSURANCE COMPANY
 Bond and Corporate Finance Group
 June 10, 1998

Private

Purchase Recommendation

GBSA \$3.0 million	CSO80 \$2.0 million	INDINS \$4.0 million
GRPINS \$0.5 million	1QA \$4.5 million	JHLICOA \$0.5 mm
BOLJ \$3.0 million	SIG 1A \$5.0 million	
UNIVRSL \$1.0 million	GM HRCD (SA 86) \$1.5 million	

ISSUER:

Purdue Pharma L.P., The Purdue Frederick Company, Norwell Land Company, The Purdue Pharma Company, Purdue Associates L.P., PRA Holdings, Inc., Purdue Pharma Inc., and Purdue Associates Inc.

ISSUE:

\$80 million 7.03% Senior Notes due 2003

RATINGS:

JH: Baa1; Moody's: n/r; S&P: n/r;

BROKER:

BNY Capital Markets, Inc.

SIC CODE:

2830 - Drugs

PARTICIPANTS:

John Hancock	\$25.0 million
American General	20.0 million
Nationwide Life	20.0 million
AALutherans	10.0 million
Provident Life	<u>5.0 million</u>
	\$80.0 million

HANCOCK

PARTICIPANTS:

Listed above

USE OF PROCEEDS:

To repay existing indebtedness, working capital and general corporate purposes.

STATE OF INC.:

Delaware

YIELD:

7.03%

INTEREST:

Semi-annually

SPREAD:

125 basis points over the 5-year treasury yield.

CIRCLE DATE:

April 29, 1998

AVERAGE LIFE:

5 years

DURATION:

4.2 years (estimated)

SINKING FUND:

Bullet

TAKEDOWN DATE:

Upon completion of documentation

CALL:

Make-Whole at T+ 50 bps.

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PUT: Change of Control (at Par)

HANCOCK HOLDINGS: None

RELATED HOLDINGS: None

FINANCIAL COVENANTS: Include: Maintenance of Net Worth (\$70 million plus 25% of Net Income), Maintenance of Indebtedness to (EBITDA plus R&D expense) not exceed 3.0x, Negative Pledge, Merger and Sale of Assets.

ANALYST: Stephen J. Blewitt, Senior Investment Officer

HOUSE COUNSEL: Jody Acford, Esq.

SPECIAL COUNSEL: Hebb & Gitlin

Report Authors:

Anthony C. Urick, Second Vice President
Stephen J. Blewitt, Senior Investment Officer
Kevin M. Crosby, Junior Analyst
(t:/industri/sjb/yellows/pur-yo1.doc)

Purdue

Purdue Pharma L.P., The Purdue Frederick Company, Norwell Land Company, The Purdue Pharma Company, Purdue Associates L.P., PRA Holdings, Inc., Purdue Pharma Inc., and Purdue Associates Inc. (collectively, "Purdue" or the "Company") are privately-owned companies which are wholly-owned, both directly and indirectly through family trusts and holding companies, by the family of Mortimer D. Sackler, M.D. and by the family of Raymond R. Sackler, M.D. Purdue is engaged in the research, development, production and distribution of ethical pharmaceuticals, over-the-counter medicines and hospital products. While Purdue owns and markets well-known products such as Betadine - a topical antiseptic, and Senokot - a natural laxative, the Company's strength lies in controlled-release analgesics used for the treatment of moderate and severe pain (specifically, MS Contin and OxyContin). In 1997, Purdue generated \$377.1 million in net sales and \$42.5 million in operating profit.

Purdue is raising \$80 million to repay amounts drawn under the Company's revolving credit facility and for general corporate purposes. Specifically, the Company plans on building a 183,000 square foot facility near its corporate headquarters to house medical and clinical personnel at a total cost of \$58 million. In addition, the Company is currently developing a newly renovated laboratory of 105,000 square feet in Ardsley, NY to support R&D operations at a cost of \$34.0 million.

Purdue Pro Forma Capitalization			
	<u>3/31/98</u>	Adjustments	Pro Forma <u>3/31/98</u>
Cash	-	\$ 27,400	\$ 27,400
Debt			
Working Capital Debt	\$ 9,500	(\$ 9,500)	-
Funded Debt	\$43,100	(\$ 43,100)	-
Senior Notes	-	<u>80,000</u>	<u>80,000</u>
Total Debt	<u>\$52,600</u>		<u>\$ 80,000</u>
Shareholder Equity	\$94,132		\$ 94,132
Total Capitalization	<u>\$146,732</u>		<u>\$174,132</u>

Pain Management Market

Acute pain is caused by conditions such as headaches, muscle aches, bruises, traumas, and surgical procedures and lasts for less than three months. Chronic pain (pain that lasts longer than three months) is less frequent, but is reaching epidemic proportions in the United States, and according to the National Chronic Pain Outreach Association, 35 million individuals experience chronic pain.

In order to effectively manage varying degrees of pain, the World Health Organization developed the "Analgesic Ladder". This ladder was developed in order to assist health care professionals in matching the intensity of the patients pain with appropriate analgesic medications. Nonnarcotic medications are used to treat acute mild to moderate pain and narcotics are used to treat severe pain. Severe pain has two different severity levels. For one level of severe pain weak narcotics such as codeine are recommended and for very severe pain, potent narcotics such as morphine are used. Recommended relief of varying pain levels is as follows:

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1. **Mild pain:** Mild pain is treated with a single nonopioid analgesic such as acetaminophen (Tylenol) or one of the NSAIDs with another nonopioid analgesic. Mild pain relief products represented approximately \$3 billion in sales in 1997 with all Acetaminophen products claiming \$1.2 billion in sales.

2. **Moderate to moderately severe pain:** When the treatment of moderate to moderately severe pain fails with nonopioids, a weak oral opioid such as codeine in combination with a nonopioid analgesic is used. This segment of the pain market was responsible for \$1.2 billion in sales in 1997 and includes products such as Vicodin, Tylenol with Codeine and Percodan.

3. **Severe pain:** Patients with severe pain who have failed to achieve pain relief with weak opioids should use a more potent product such as morphine in combination with or without a nonopioid analgesic. Severe pain relief products accounted for almost \$700 million in 1997 sales and the market is dominated by MS Contin, OxyContin and Duragesic.

Strengths

Diversified and Stable Portfolio of Products

During the past 45 years, Purdue has developed an interesting product mix that provides stability of cash flow and exceptional growth potential. Approximately 20% of Purdue's revenues are generated by products that have been marketed for over 30 years, including Senokot, Betadine and Cerumenex. An additional 45% of Purdue's revenues are generated by products that have been marketed for approximately 15 years, including MS Contin and Uniphyll. Finally, 35% of the Company's revenues are generated by OxyContin, a product that is only three years old.

Purdue is the market leader in the strong opioid analgesic market. In 1984 when Purdue launched MS Contin tablets, morphine was available only in generic immediate-release forms. At that time, these generic forms of morphine sold less than \$5 million per year. Both physicians and patients were reluctant to use morphine because of addiction fears, because of morphine's reputation as a drug used for dying patients, and because physicians were not trained on pain management. Since 1984, Purdue has offered extensive education in pain management to health care professionals regarding efficacy, addiction, and pain management. Purdue has also developed multiple strengths of sustained release morphine products. As a result, MS Contin's gross sales reached \$139 million in 1997.

In 1995, Purdue launched its second controlled-release strong analgesic, OxyContin. This product, the successor to MS Contin tablets, was the first and remains the only controlled-release oxycodone product on the market. Since its launch in December 1995, OxyContin sales have developed faster than those for any other product in Purdue history. In 1997, OxyContin sales represented \$145 million in revenues and the product claimed a 22.6% market share in only its third year of distribution. Purdue has a ten year patent on the OxyContin product and at this time there are no chemically equivalent products on the market.

Purdue's Portfolio of Products					Revenues (\$millions)				
Product	Indication	Year Launched	Rx/OTC	1993	1994	1995	1996	1997	
OxyContin	Pain	1995	Rx	-	-	3.3	49.5	144.8	
MS Contin	Pain	1984	Rx	74.7	94.4	113.3	130.2	139.4	
Senokot	Laxative	1955	OTC	25.7	27.3	32.1	35.5	42.3	
Betadine	Antiseptic	1966 (a)	OTC	30.8	26.3	29.7	28.9	27.3	
Uniphyll	Asthma	1984	Rx	30.1	29.6	33.5	36.6	26.5	
Trisilate	Arthritis	1977	Rx	21.7	18.5	17.0	11.4	6.7	
Others	-	-	-	11.4	12.5	14.8	15.0	17.5	

(a) Purdue acquired Betadine in 1966.

Growing Pain Management Market

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The U.S. pain relief market is estimated to be \$4.7 billion and is estimated to be growing by 7% per year. In addition, the U.S. opioid analgesic market is estimated at \$1.6 billion and is expected to grow at an annual rate of 12%. Key drivers of market growth include:

- increasing awareness among physicians & patients of the benefits of proper pain management.
- an increase in the number of surgical procedures.
- growth in the number of elderly, the primary victims of arthritis.
- a rise in cancer.

<u>Pain Management Market</u> (Sales in millions of \$)		
<u>Step 1: Mild to Moderate Pain</u>	<u>Step 2: Mild to Moderate Pain</u>	<u>Step 3: Severe Pain</u>
<u>Nonnarcotics</u>	<u>Rx Narcotics</u>	<u>Rx Narcotics</u>
Ultram \$267	Hydrocodone Combinations \$123	Duragesic \$200
Disfunisal 31	Darvocet 75	MS Contin 140
Dolobid 6	Talacen 11	OxyContin 129
	Vicodin 62	Other Morphine 25
<u>OTC Products</u>	Lorcet 56	Demerol 19
All Acetaminophen \$1,150	Lortab 54	Dilaudid 17
All Ibuprofen 690	Oxycodone Combinations 46	Oramorph SR 17
All Aspirin 600	Percocet 46	Kadian 3
All Naproxen 140	Acetaminophen w/ Codeine 42	
All Ketoprofen 70	Tylenol w/ Codeine 28	<u>Total Revenues</u> \$550
<u>Total Revenues</u> \$2,948	Tylox 13	
	Percodan 10	
	<u>Total Revenues for Rx Narcotics</u> \$566	
	<u>NSAIDS</u>	
	Lodine \$244	
	Orudis/Oruvail 140	
	Cataflam 100	
	Toradol 45	
	Naproxen Rx 31	
	Motrin Rx 25	
	Anaprox 20	
	<u>Total Revenues</u> \$1,206	

Product Pipeline.

Purdue has aggressively re-invested in its business. In the past three years, the Company has invested \$160.9 million in research and development and expects to invest \$100 million in 1998 alone. As a result of Purdue's significant expenditures on R&D, the Company has seven important products under development that are targeted by Purdue for marketing approval in 1999 through 2003 which are expected to be indicated for the relief of pain. The nature of the new products is principally the application of patented controlled-release technology to existing compounds already used in humans. This approach is expected to have a higher probability of FDA approval, usually costs considerably less and has a much shorter development cycle than a new compound.

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Purdue currently has two products in Phase III clinical trials. One product, TDS, is a partial opioid analgesic delivered with a transdermal patch that the Company has in-licensed. TDS is expected to compete directly against the Duragesic patch and is believed to be longer acting than Duragesic. The product is scheduled to be launched in 1999 and five year gross sales are estimated at \$600 million. The second product in late stages of approval is THCR-Tramadol. This product is a controlled-release, once-a-day analgesic based on tramadol, the active ingredient in Johnson & Johnson's immediate-release Ultram. Ultram has proven to be as effective as nonsteroidal antiinflammatory drugs, but has less gastrointestinal side effects. Ultram has quickly become a \$300 million product and Purdue has teamed with Johnson & Johnson to market THCR-Tramadol as the only controlled-release product based on tramadol. This product is expected to be launched in 2000 and five-year gross sales are projected to be \$1.1 billion.

Purdue is intent on continuing to invest in research and development and the Company believes that its recent research in novel anesthetics, diabetes and anti-cancer drugs have the potential to result in significant new sales opportunities outside of pain management.

Risks and Mitigating Factors

Competition.

Competition in the pharmaceutical industry is intense. In addition to the existing products that Purdue competes against in the pain market, several new products may enter the opioid analgesic market in the next few years. In particular, Algos Pharmaceuticals is in Phase III clinical trials with Morphidex, a combination of morphine and dextromethorphan, a drug commonly used in cough syrups. Morphidex is believed to have twice the efficacy of leading severe pain narcotics without increasing the side effects. The product is currently scheduled to be launched in the second half of 1999. Another product in the pipeline is Actiq. This drug, which is being developed by Anesta, is awaiting FDA approval and could be launched in 1999.

Purdue has competed successfully in the pain market for approximately 14 years and has invested significant capital in its research and development of new products to continue to compete effectively. Purdue has competed successfully through its patented controlled release mechanisms, large dedicated sales force and distribution arrangement with Abbott Laboratories for OxyContin. The Company has a number of promising products that are scheduled to be launched during the next two years which will continue to drive growth in revenues and profitability.

Managed Care.

In an attempt to reduce overall healthcare costs, managed care providers use their clout to secure discounts on purchases of pharmaceuticals and medical products, as well as physician and other healthcare services. These managed care operators seek low-cost generic pharmaceuticals and often enforce the use of these alternatives through the use of formularies. A formulary is a list of prescription drugs approved for use by the managed care organization. The formularies rarely include higher-priced branded products and typically favor lower-priced generic drugs.

Purdue has successfully competed in this managed care environment for over a decade. Although MS Contin has been off patent for five years, a generic alternative does not exist. As a result, Purdue has maintained strong pricing for its product. OxyContin is still protected by patents which have ten years remaining. As a result, managed care companies will not be able to force generic substitution. Purdue is continuing to develop patent-protected products, such as TDS and THCR, which will drive growth in the event that generic versions of MS Contin and OxyContin do become available.

Management

Mortimer D. Sackler, M.D. Dr. Sackler is the Chairman and co-CEO of The Purdue Frederick Company and Purdue Pharma, L.P. Dr. Sackler received his medical doctor degree from Middlesex University School of Medicine. He is a Diplomat of American Board of Psychiatric Association and is a Fellow of American Psychiatric Association. Dr. Sackler was a co-founder and Associate Director of the Creedmoor Institute for Psychobiological Studies of New York.

Raymond R. Sackler, KBE, M.D. Dr. Sackler is the President and co-CEO of The Purdue Frederick Company and Purdue Pharma, L.P. Dr. Sackler received his medical doctor degree from Middlesex University School of Medicine. He is a Diplomat of American Board of Psychiatric Association and is a Fellow of American Psychiatric Association. Dr. Sackler was a co-founder and Associate Director of the Creedmoor Institute for Psychobiological Studies of New York.

Edward Albright Executive Vice President, General Manager of The P.F. Laboratories, Inc. Mr. Albright joined Purdue in 1994. Prior to joining Purdue, Mr. Albright was worldwide head of manufacturing for Sterling Drug, Inc., where he managed thirty plants. Mr. Albright received his B.S. degree at Cornell University and has graduate degrees in Bio Chemistry from the College of St. Rose and Rensselaer Polytechnic Institute. He also earned an Executive MBA from Kellogg School of Business at Northwestern University.

Stuart D. Baker International General Counsel. Mr. Baker joined Purdue in 1994. Mr. Baker was, and continues to be a partner of Chadbourne & Parke LLP. Mr. Baker earned his B.A. from Hamilton College and his LL.B. from Columbia University.

Michael Friedman Group Vice President of The Purdue Frederick Company. Mr. Friedman joined Purdue in 1985 and was appointed to his current position in 1988. He leads Purdue's Sales, Marketing and Commercial Development departments. Mr. Friedman was formerly CEO of Eutectic, Inc. and Vice President of Marketing of Hilti, Inc. Mr. Friedman received his B.A. from Brooklyn College and a MBA from the University of Connecticut.

Paul D. Goldenheim, M.D. International Director, Research and Product Development. Dr. Goldenheim joined Purdue in 1985 as Medical Director and was appointed to his current position in 1997. Dr. Goldenheim received his A.B. from Harvard College and M.D. from Harvard Medical School. Dr. Goldenheim began his teaching experience at Harvard College in 1972 as a Teaching Fellow. In 1981 he was appointed Instructor in Medicine and in 1981-82 as Clinical Assistant in Medicine and Assistant in Medicine, Massachusetts General Hospital.

Edward B. Mahony Vice President, Chief Financial Officer. Mr. Mahony joined Purdue Frederick in 1993. Prior to joining Purdue, Mr. Mahony was at Bristol-Myers Squibb where he was Vice President, Controller, of BMS's Consumer Products Division. Mr. Mahony received his B.S., Accounting at Manhattan College and his MBA, Finance at New York University. He is a Certified Public Accountant and began his career in various audit capacities at Price Waterhouse and later at Touche Ross & Company.

Howard R. Udell Deputy International General Counsel. Mr. Udell joined Purdue in 1980 as General Counsel and was appointed to his current position in 1994. Mr. Udell is a graduate of Hunter College of the City University of New York and received his LL.B. from New York University. He is also a partner in the New York law firm of Millard, Greene & Udell.

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Blewitt 11/17/2006 Deposition Exhibit 4

D's Exhibit 519

JOHN HANCOCK MUTUAL LIFE INSURANCE COMPANY
Bond and Corporate Finance Group
January 13, 1999

Private

<u>Purchase Recommendation</u>			
Mezz Fund	\$7.5 million	Sig 3 CBO	\$2 million
Sig 1A	\$0.5 million	TIP (S/A 18)	\$0.5 million
GBSA	\$2.0 million	Multigr (SA 12)	\$0.2 million
Ind/Ins	\$1.0 million	CSO80	\$0.5 million
IQA	\$0.5 million	Grp. Ins	\$0.1 million
Univrsl	\$0.2 million		

Summary
Celgene Corporation
Warren, NJ

We are recommending the purchase of \$15 million of 9.00% Convertible Senior Notes due 2004 of Celgene Corporation ("Celgene" or the "Company"). The Notes are convertible into 833,333 shares of common stock of the Company. Proceeds from the Notes will be used to fund sales and marketing, research and development and for working capital purposes.

Celgene is a publicly-listed pharmaceutical company engaged in the development and commercialization of human pharmaceuticals and agrochemicals. Celgene was originally organized in 1980 as a unit of Celanese Corporation to apply biotechnology to the production of fine and specialty chemicals. Following the 1986 merger of Celanese and American Hoechst Corporation, Celgene was spun out as a separate company. In 1987, Celgene completed its initial public offering and has raised approximately \$99 million in equity since 1987.

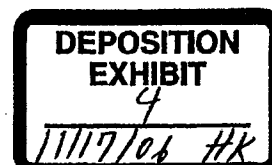
In July 1998, Celgene received approval from the US Food & Drug Administration to market and sell Thalomid™ (thalidomide) for the treatment of certain inflammatory complications of leprosy. In the late 1950s and early 1960s, thalidomide, when used outside of the US as a sedative for morning sickness, resulted in severe birth defects in over 10,000 children. Despite these known side effects, thalidomide has been dispensed by the World Health Organization and the US FDA for the treatment of leprosy and a variety of other immunological diseases for over twenty years. The significance of Celgene receiving approval to sell thalidomide does not relate to leprosy, however. In many clinical trials that have been completed, thalidomide is shown to be effective in treating a number of diseases, such as AIDS, cancer, macular degeneration and Crohn's disease. Celgene has patent protection for the use of thalidomide in cancer and in inflammatory diseases.

Our recommendation is based upon the value of Thalomid as an approved drug that potential uses in a number of substantial disease categories, Celgene's additional products in development, and the potential to earn an attractive 14-24% IRR during the next 3- 5 years.

Report Authors:

Sandeep D. Alva, Second Vice President
Anthony C. Urlick, Second Vice President
Stephen J. Blewitt, Senior Investment Officer
D. Dana Donovan, Senior Investment Officer
Kevin Crosby, Junior Analyst
(t:/industry/sjb/celg-yo1.doc)

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JOHN HANCOCK MUTUAL LIFE INSURANCE COMPANY
Bond and Corporate Finance Group
January 13, 1999

Private

Purchase Recommendation

Mezz Fund	\$7.5 million	Sig 3 CBO	\$2 million
Sig 1A	\$0.5 million	TIP (S/A 18)	\$0.5 million
GBSA	\$2.0 million	Multigr (SA 12)	\$0.2 million
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Univrsl	\$0.2 million		

ISSUER:

Celgene Corporation

ISSUE:

\$15 million Convertible Senior Notes due 2004

RATINGS:

JH: B2; Moody's: n/r; S&P: n/r;

BROKER:

Warburg Dillon Read

SIC CODE:

2830 - Drugs

HANCOCK
PARTICIPANTS:

Listed above

USE OF PROCEEDS:

To fund sales and marketing, research and development and for working capital purposes

STATE OF INC.:

Delaware

YIELD:

9.00%

INTEREST:

Semi-annual

SPREAD:

Approximately 441 basis points over the 5-year treasury yield (OAS)

CONVERSION:

After the first anniversary of closing and prior to maturity, the holders may convert the Notes into 833,333 shares of common stock of the Company.

CIRCLE DATE:

December 24, 1998

AVERAGE LIFE:

5 years (estimated)

DURATION:

4 years (estimated)

SINKING FUND:

Bullet

TAKEDOWN DATE:

Upon completion of documentation

CALL:

After the second anniversary at a price of 103% if the price of the Company's common stock exceeds \$40.50. Any time after the third anniversary at a price of 103%.

PUT:

Change of Control (at Par)

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HANCOCK HOLDINGS: None

RELATED HOLDINGS: None

PUBLICLY TRADED SECURITIES: Foreign: No Domestic: Yes

YEAR 2000: Due diligence has been conducted on Year 2000 issues that could affect the Company.

FINANCIAL COVENANTS: Consolidation, Merger, Sale of Assets

PURCHASER COVENANTS: Purchaser will not undertake any form of short sale, derivative or other transaction which has the effect of taking a "short position" in the common stock of the Company while the Purchaser holds the Notes and the Company does not have the right to call the Notes.

ANALYST: Stephen J. Blewitt, Senior Investment Officer
D. Dana Donovan, Senior Investment Officer

HOUSE COUNSEL: Christine Miller

SPECIAL COUNSEL: Choate, Hall & Stewart

Report Authors:

Sandeep D. Alva, Second Vice President
Anthony C. Urick, Second Vice President
Stephen J. Blewitt, Senior Investment Officer
D. Dana Donovan, Senior Investment Officer
Kevin Crosby, Junior Analyst
(t:/industri/sjb/yellows/cclg-yo1.doc)

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Celgene Corporation

Celgene Corporation ("Celgene" or the "Company") is a publicly-listed pharmaceutical company engaged in the development and commercialization of human pharmaceuticals and agrochemicals. Celgene's work is focused in two broad areas: (a) small molecule pharmaceuticals and (b) chiral chemistry synthesis in human pharmaceuticals and agrochemicals. Celgene was originally organized in 1980 as a unit of Celanese Corporation to apply biotechnology to the production of fine and specialty chemicals. Following the 1986 merger of Celanese and American Hoechst Corporation, Celgene was spun out as a separate company. In 1987, Celgene completed its initial public offering. The Company has raised approximately \$99 million in net proceeds from three public and three private offerings, including its IPO.

In July 1998, Celgene received approval from the US Food & Drug Administration to market and sell Thalomid™ (thalidomide) for the treatment of certain inflammatory complications of leprosy. In addition to leprosy, however, there is the potential for significant use of Thalomid in "off-label" indications, such as AIDS, cancer, macular degeneration and Crohn's disease. Celgene has patent protection for the use of thalidomide in cancer and in inflammatory diseases.

Chiral chemistry refers to the property of many chemical compounds to exist in two or more different forms that are mirror images of each other. While one form may have beneficial effects, the other may be inactive or produce undesirable effects. Chirally pure compounds contain only one of these conformations, and thus may have attributes superior to those that have both. Celgene's lead compound is a chirally pure version of Ritalin, a treatment for Attention Deficit Hyperactivity Disorder. Celgene is currently initiating phase III trials for its version of Ritalin.

Celgene is also applying its chiral technology to the production of chirally pure agrochemicals and is currently developing a chirally pure version of a currently marketed crop protection agent under an R&D agreement with BASF.

Thalidomide - History pre-1990s

Thalidomide was originally developed and marketed overseas as a sedative in 1957 and was eventually prescribed for morning sickness to pregnant women. Unfortunately children born to the mothers who took thalidomide had serious birth defects. In the US, however, the drug was never approved due to concern regarding peripheral neuropathy (damage to the nerves of the extremities). In the 1960s, a physician treating leprosy patients in Israel for a painful condition known as erythema nodosum leprosum ("ENL") prescribed thalidomide as a sedative. The results were surprising as the drug alleviated the symptoms of this painful condition. From that point onward, thalidomide has been the therapy of choice (including designation by the World Health Organization) for ENL. In the US, the drug has been distributed under the auspices of the Public Health Service (the parent organization of the FDA) to many thousands of patients for ENL and later for a variety of other immunological diseases.

Thalidomide - Current

In 1991, Dr. Gilla Kaplan of The Rockefeller University discovered that thalidomide inhibits the overproduction of a protein in the body called Tumor Necrosis Factor Alpha ("TNF α "). TNF α is a chemical messenger essential to the mounting of an inflammatory response, which is the normal immune system reaction to infection or injury, and rids the body of foreign agents and promotes tissue repair. However, chronic or excessive production of TNF α has been implicated in a number of acute and chronic inflammatory diseases such as cachexia, Crohn's disease, and rheumatoid arthritis. A patent on the application of the use of thalidomide as a TNF α -inhibitor was received in 1995 and exclusively licensed by Celgene.

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In 1994, Drs. Judah Folkman and Robert D'Amato of Children's Hospital/Harvard University discovered that thalidomide also inhibited the formation of new blood vessels, a process called angiogenesis. Angiogenesis primarily occurs in the first three months of embryonic development when cytokines and growth factors are activated to stimulate blood vessel growth. Once the general network of blood vessels is complete, these stimulators are inhibited and blood vessels generally only grow longer and larger. Patents for the use of thalidomide for anti-angiogenic diseases including cancer were issued in 1995 and licensed to EntreMed, Inc., a publicly-listed biotechnology company. EntreMed subsequently initiated a broad relationship with the National Cancer Institute to evaluate thalidomide clinically in a large variety of cancers.

During the 1990s, a substantial black market for thalidomide emerged among AIDS patients, principally for cachexia (the involuntary loss of more than 10% of body weight) and certain ulcers. Based on questionnaires of AIDS patients, an estimated 25% of AIDS patients had used thalidomide. Because of widespread use of thalidomide and the potential for birth defects, the US FDA encouraged Celgene and EntreMed to seek marketing approval for the drug. Celgene sought and received approval for thalidomide for ENL in July 1998.

EntreMed Transaction

On December 10, 1998, Celgene and EntreMed, Inc. announced an agreement under which Celgene acquired exclusive worldwide rights to EntreMed's patents and technology for thalidomide for the treatment of cancer and will assume primary responsibility for the on-going relationship with the National Cancer Institute (NCI) for clinical trials of thalidomide.

StrengthsThalomid is an approved product with many potential indications.

Thalomid™ has been approved by the US FDA for use by ENL patients. Celgene is also seeking approval from the US FDA for a number of AIDS related diseases and cancers. Because the toxicity of thalidomide is well-known, Celgene has been able to start its clinical trials (several in conjunction with the National Cancer Institute) at a Phase II or Phase III stage (to determine proper dosing and to develop statistically significant results of efficacy), as described below.

Product	Indication/Intended Use	Status
Thalomid	ENL in leprosy	On Market
	AIDS - Cachexia	Phase III completed
	AIDS - RAS	Phase III completed
	Multiple Myeloma	Phase II completed
	Glioblastoma	Phase II completed
	Breast cancer/Prostate cancer/Kaposi's sarcoma	Phase II (Entremed/NCI)
	Crohn's disease	Phase II commenced

Initial results are promising:

AIDS Cachexia : 104 patients studied. At 100 mg/day dose for eight weeks, patients experienced an average weight gain of almost five pounds compared to a loss of approximately one-half pound for the placebo group.

AIDS RAS : 57 patients studied. Ulcers in 55% of the patients treated for four-weeks healed completely compared to 7% of the placebo patients.

Cancer Cachexia : Phase II trial underway.

Multiple Myeloma : Arkansas Cancer Research Center study of 89 patients. Ten patients showed at least a 75% reduction in tumors; eight showed between 50 -75% reduction; and twelve showed between 20 - 50% reduction. The median duration of response was 25 days with some patients responding for over 180 days.

Glioblastoma : Dr. Howard Fine of the Dana-Farber Cancer Institute has conducted a thalidomide study (sponsored by the National Cancer Institute) in 50 patients with high-grade glioblastomas. The trial demonstrated partial response in 40-50% of the patients.

Drs. Gruber and Glass at NYU conducted a study with 60% response rate in 98 patients.

Prostate cancer: 18 patients treated. Nine patients experienced a decline in their PSA level by at least 37% and two showed disease stabilization.

Clinical Trials Primer

Preclinical – laboratory evaluation of product chemistry and animal studies to assess potential safety and efficacy of products and their formulations.

Phase I – small number of healthy individuals to determine early safety profile and the pattern of drug distribution and metabolism. (Probability of Phase I compounds ultimately receiving FDA approval = 20%)

Phase II – small groups of patients to determine preliminary efficacy, dosing regimens, and expanded evidence of safety. (Probability of Phase II compounds ultimately receiving FDA approval = 50%)

Phase III – larger scale, multi-center, well-controlled, comparative trials with patients in order to show statistical proof of efficacy and safety. (Probability of Phase III compounds ultimately receiving FDA approval = 75%)

Celgene has several other products in development.

Using its experience with Thalomid as a TNF α -inhibitor, Celgene is developing new chemical entities ("NCEs") to treat chronic inflammatory diseases such as Crohn's disease and rheumatoid arthritis. The Company's first NCE, which it is calling SelCID™, has completed Phase I trials in the UK for the treatment of Crohn's disease. SelCID is many years away from receiving approval (if ever) in the US, but the market for potent TNF α -inhibitors is large.

Celgene's chiral chemistry program has produced a chirally pure version of d,l-methylphenidate (currently marketed under the trade name Ritalin). Celgene has a patent on its version of Ritalin and recently completed a Phase II trial that demonstrated efficacy versus placebo and longer duration of action relative to the original version of Ritalin. Ritalin is a generic product with a \$400 million market and is currently controlled by three companies. If Celgene is successful in its Phase III trials, the Company has the potential to take some market share from the existing generic makers.

The Company's chiral chemistry program also includes its agrochemicals subsidiary, Celgro. Celgro has signed several agreements to develop chirally pure versions of currently marketed crop protection for third-parties.

Product	Indication/Intended Use	Status
IMMUNOTHERAPEUTIC		
IMiDs	Inflammatory diseases; oncology	Preclinical development
SelCIDs	Inflammatory diseases; oncology	IND for Crohn's disease; Phase I completed
CHIRAL PLATFORM		
d-MPH	Attention Deficit Hyperactivity Disorder	Phase III commenced
mexiletine	Neuropathic pain	Preclinical development
Chiral biocatalytic technology	Reduced manufacturing costs and reduced environmental impact	Two agreements signed in 1998

Expected IRR

Celgene's current market capitalization is approximately \$240 million (\$15/share). We expect the Company's market capital to increase to approximately \$500 million (\$28/share) within three to five years. At that level, the Notes will generate an IRR of between 14.6% (5 years) and 24.2% (3 years).

Cash flows (\$ 000s)	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	
Three Year Scenario	(15,000)	1,350	1,350	23,850			IRR = 24.2%
Five Year Scenario	(15,000)	1,350	1,350	1,350	0	22,500	IRR = 14.6%

Our estimate of future market capitalization is based on the Company achieving \$50 million in product revenues within the next three to five years and companies similar to Celgene having valuations of approximately 10x revenues.

Company	Market Capitalization	Revenues	Multiple of Revenues
Sequus	642	61	10.5x
Enzon	445	14	31.4
Liposome Company	364	70	5.2
TheraTech	288	46	6.2
Ligand	494	39	12.6
Biomatrix	501	40	12.5
Pathogenesis	793	42	18.8
Vertex	684	44	15.5
		ADJ. AVG.=	11.6x

Our estimate of \$50 million in revenues is based on sales of Thalomid for AIDS-related diseases, cancer and Crohn's disease. Although Celgene currently only has approval to sell Thalomid for ENL, physicians are not limited to prescribing drugs for specific approved indications. [For example, over 50% of all cancer drug usage is "off-label" and the current "gold standard" for Crohn's disease, methotrexate, has never been approved for this indication. In fields of medicine, such as oncology, where patients often fail "first-line" therapy or become resistant to therapy, physicians have wide discretion to prescribe drugs that have been approved by the US FDA for some indication and have some clinical data showing efficacy.] We expect the Company to benefit from scientific publications in oncology and cachexia in 1999 and an approved indication in oncology in 2000 or 2001.

Specifically, we expect Thalomid to be used for (a) approximately five percent of AIDS patients, generating approximately \$10 million in revenues, (b) approximately one percent of cancer patients (for cachexia and tumor suppression), generating approximately \$30 million in revenues, and (c) a variety of other indications (particularly Crohn's disease for which there is only one TNF α -inhibitor currently approved), generating approximately \$10 million in revenues.

With \$30 million of cancer-related sales, Thalomid would become one of approximately 30 - 40 drugs for the treatment of cancer with that level of revenues. The prospects for growth are exceptional, as the oncology drug market is expected to grow by nearly 10% per year for the next decade. This growth will be driven by (1) the aging population, (2) an increase in the utilization of cancer drugs due to increased effectiveness and decreased toxicity, and (3) a rise in the amount of money spent per patient.

Celgene Corporation, Inc.

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John Hancock's Projected Financial Information

	1998	1999	2000	2001	2002	2003
Revenue	4,491	35,000	42,500	52,000	62,000	72,000
Cost of Goods	809	3,200	4,250	5,200	6,200	7,200
SG&A	15,207	21,180	22,200	23,100	24,300	25,800
R&D	20,469	24,116	20,000	20,000	20,000	20,000
Net Oper Inc.	(31,493)	(13,496)	(3,950)	3,700	11,500	18,000

Risks and Mitigating FactorsBurn Rate

Celgene has sustained losses in each year since its incorporation, including a net loss of \$25 million in 1997 and an expected loss of approximately \$25 million in 1998. Currently, Celgene is generating cash losses of approximately \$2 - 2.5 million per month. With the approval and launch of Thalomid, however, Celgene's "burn" will diminish during 1999, and we conservatively expect the Company to achieve positive monthly cash flow during 2000. Pro forma for the issuance of the Notes, Celgene will have \$21 million in cash. Additionally, Celgene has the opportunity to raise capital by selling Tax Loss Carryforwards and by selling an interest in its Celgro subsidiary. Combined, these sources can generate an \$17 million in cash, if necessary. We believe that Celgene has sufficient cash and potential sources of cash to take the Company to the stage of sufficient product sales and profitability.

Potential failure of clinical trials/market acceptance.

Our revenue estimates for the Company are initially based on market acceptance of Thalomid for indications (such as cancer cachexia, multiple myeloma, etc.) that Celgene has not received approval for and subsequently assume that such approvals are received. We believe that oncologists will be willing to try Thalomid based on scientific publications that demonstrate efficacy in clinical trials. The market for Thalomid will grow as the Company receives approval from the US FDA for additional indications. If, however, ongoing trials with Thalomid fail to demonstrate efficacy, we believe that market acceptance for Thalomid will be reduced.

Since Thalomid has successfully completed Phase III trials for AIDS cachexia, we believe that there is a high probability (90%) of receiving US FDA approval for this indication. With an approval for cachexia, Celgene should be able to develop a strong base of revenues in the AIDS and cancer markets. As an approved drug (with known toxicity and methods of action) with a wide range of potential indications, then, the risk of an unsuccessful trial damaging the potential for all indications for Thalomid is unlikely.

Volatility of Stock Price and Probability of Default.

Pro forma for the issuance of the Notes, Celgene's debt-market capitalization will be approximately 10%. Stock prices for small drug companies, however, are highly volatile. Our analysis of twenty-three biotechnology companies that had an US FDA approved product as of November 1995 indicate a 100-day volatility of approximately 40% during the past three years.

Theoretical	Three-year	Actual
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<u>Count</u>	<u>% Change</u>	<u>Count</u>
0.0	1966	0.0
.5	954	1.0
2.0	438	4.0
3.0	174	4.0
6.0	40	9.0
6.0	(29)	3.0
3.0	(64)	0.0
2.0	(81)	1.0
.5	(91)	1.0
<u>0.0</u>	<u>(95)</u>	<u>0.0</u>
23.0		23.0

Using forty-percent 100-day volatility, in five years, when the Notes are due, we expect the following range of equity values for Celgene (based on an initial value of \$200 million):

<u>Equity Value</u>	<u>%</u>
<u>(\$ millions)</u>	
>4,132	1.8
2,108	4.2
1,075	9.2
548	15.3
280	19.6
142	19.6
72	15.3
37	9.2
19	4.2
<10	1.8

We believe that Celgene must have a market capitalization of at least \$70 million to have sufficient financial flexibility to repay the \$15 million Notes; as a result, we assume that if Celgene has less than a \$70 million market capitalization, the Company will default on the Notes. Based on our theoretical model, the probability of default is 15.2%, or approximately 3% per year, which we believe equates to a 'single-B' credit risk.

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MANAGEMENT AND DIRECTORS

John W. Jackson (53). Chairman and CEO since 1996. Mr. Jackson was founder and president Gemini Medical, a consulting firm, from 1991 to 1996. Previously, Mr. Jackson was President of the Medical Device Division of American Cyanamid Company from 1986 to 1991, and held other senior management positions there from 1978 to 1986.

Sol J. Barer, Ph.D. (50). President, COO and Director. Dr. Barer started with Celgene in 1987 as its Vice President - Technology. He was promoted to Senior Vice President - Science and Technology in 1990, became President in 1993 and COO in 1994. Dr. Barer received his Ph.D. in organic and physical chemistry from Rutgers University.

Joseph Day (57). Senior Vice President - Business Development since 1998. Mr. Day was previously employed by Cephalon as the head of business development. Prior to Cephalon, Mr. Day was Vice President, Business Development in the Wyeth-Ayerst division of American Home Products. Mr. Day has an MBA in marketing and finance from Rutgers University and a BS in pharmacy from Fordham University.

Robert C. Butler (67). Consultant since 1998. Mr. Butler had been CFO of the Company from 1996 until he retired in 1998. From 1988 to 1995, Mr. Butler was Senior Vice President and CFO of International Paper Co. From 1979 to 1987, Mr. Butler was Group Executive Vice President of the National Broadcasting Company. Mr. Butler is a member of the Board of Directors of Carter Holt Harvey Ltd.

Jack L. Bowman (65). Director since 1998. Former Chairman of Johnson & Johnson.

Frank T. Cary (76). Director since 1987. Former Chairman of IBM.

Arthur Hull Hayes, Jr., M.D. (64). Director since 1995. Former Commissioner of the US FDA.

Gilla Kaplan, Ph.D. (50). Director since 1998. Associate Professor at The Rockefeller University.

Richard C.E. Morgan (53). Director since 1987. Managing General Partner of Wolfensohn Partners.

Walter L. Robb (69). Director since 1992. Former Senior Vice President for R&D of General Electric.

Lee J. Schroeder (68). Director since 1995. Former Executive Vice President of Sandoz, Inc.

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Blewitt 11/17/2006 Deposition Exhibit 5

D's Exhibit D_E

JOHN HANCOCK MUTUAL LIFE INSURANCE COMPANY

Bond & Corporate Finance Group

March 24, 1999

Private

Purchase Recommendation

JH Pension \$5.0 million

Summary

Idun Pharmaceuticals, Inc.

La Jolla, CA

We are recommending the purchase of 1,428,572 shares of Series F Convertible Preferred Stock of Idun Pharmaceuticals, Inc. ("Idun" or the "Company") for \$5 million. The Preferred Stock will be convertible into approximately 3.7% of the fully diluted common stock of the Company. Proceeds from the Preferred Stock, together with \$5 million of additional Preferred Stock, will be used for working capital and general corporate purposes, including funding continued research and development, technology in-licensing, clinical trials, and related capital expenditures.

Founded in 1993, Idun is a biopharmaceutical company focused on the design and development of small molecule therapeutics targeting the biochemical pathways that control apoptosis, or programmed cell death. Inappropriate regulation of apoptosis contributes to a wide array of diseases including neurodegenerative diseases such as ALS and Parkinson's, cancer, and stroke. Idun has previously received \$7 million in venture capital financing and has received over \$35 million in capital from Novartis and Abbott, its corporate partners in the field of central nervous system drugs and cancer drugs, respectively.

In addition to the development projects that Idun is pursuing with its corporate partners, the Company is also developing proprietary compounds that regulate apoptosis in diseases such as liver failure, inflammation, and cardiovascular disease. Idun believes that it is approximately one year away from entering Phase I clinical trials with a compound for acute alcoholic hepatitis. The Company intends to develop compounds for clinical trials for other diseases in subsequent years.

Our recommendation is based upon the strength of Idun's management and scientific team, the broad spectrum of diseases that Idun's research applies to, and the potential for substantial equity returns.

Report Authors:

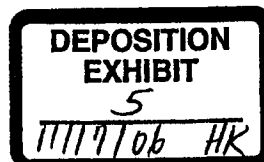
Anthony C. Urlick, Second Vice President

Stephen J. Blewitt, Senior Investment Officer

D. Dana Donovan, Senior Investment Officer

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JOHN HANCOCK MUTUAL LIFE INSURANCE COMPANY
 Bond & Corporate Finance Group
 March 24, 1999

Private

Purchase Recommendation
 JH Pension \$5.0 million

ISSUER:

Idun Pharmaceuticals, Inc.

ISSUE:

1,428,572 shares of Series F Convertible Preferred Stock

RATINGS:

JH: CCC

BROKER:

Direct

CONVERSION
PRICE:

\$3.50 per share.

CONVERSION:

The Preferred Stock may be converted at any time, at the Investor's option, into shares of the Company's Common Stock, par value \$0.01 per share. The Preferred Stock will be convertible on a share for share basis into Common Stock, subject to adjustment pursuant to anti-dilution provisions. The Preferred Stock shall be automatically converted into Common Stock (i) in the event that a majority of the holders of the outstanding Preferred Stock consent to such conversion, or (ii) upon the closing of a firmly underwritten public offering with a public offering price of not less than [\$3.50] per share and [\$7,500,000] in aggregate proceeds.

DIVIDENDS:

The holders of the Preferred Stock will be entitled to receive non-cumulative dividends prior to any payment of any cash dividend, at a rate of \$.175 per share, or, if greater, an amount equal to that paid on any other outstanding shares of the Company's capital stock.

LIQUIDATION
PREFERENCE:

In the event of any liquidation, dissolution or winding up of the Company, the holders of Preferred Stock shall be entitled to receive the greater of (i) \$3.50 per share, plus accrued and unpaid dividends, if any, or (ii) the amount the Investor would be entitled to receive if the Investor had converted such shares of the Preferred Stock into Common Stock immediately prior to the effectiveness of the event giving rise to such payment, out of the assets of the Company.

MANDATORY
REDEMPTION:

Redemption is mandatory upon the occurrence of a liquidity event (e.g., merger, redemption of other Preferred Stock or sale of assets). In the absence of a liquidity event, redemption will begin on the fifth anniversary of investment with eight quarterly installments, including accrued and unpaid dividends, if any.

SIC CODE:

8000 - Health Services

PARTICIPANTS:

John Hancock \$5.0 million
 Other Investors: \$5.0 million

HANCOCK
PARTICIPANTS:

Listed above

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USE OF PROCEEDS: The net proceeds from the convertible preferred stock will be used for working capital and general corporate purposes, including funding continued research and development, technology in-licensing, clinical trials, and related capital expenditures.

STATE OF INC.: Delaware

CIRCLE DATE: February 26, 1999

TAKEDOWN DATE: Upon completion of documentation

CALL: Non-callable

HANCOCK HOLDINGS: None

RELATED HOLDINGS: None

FINANCIAL COVENANTS: None

ANTI-DILUTION PROVISIONS: *The Conversion Price of the Preferred Stock will be subject to proportional adjustment for stock splits, stock dividends, recapitalizations and the like.*

REGISTRATION RIGHTS: *Customary for transactions of this type*

ANALYST: Stephen J. Blewitt, Senior Investment Officer
D. Dana Donovan, Senior Investment Officer

HOUSE COUNSEL: Amy Weed, Esq.

SPECIAL COUNSEL: Choate, Hall & Stewart

Report Authors:
Anthony C. Urick, Second Vice President
Stephen J. Blewitt, Senior Investment Officer
D. Dana Donovan, Senior Investment Officer
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IDUN PHARMACEUTICALS, INC.

Idun Pharmaceuticals, Inc. ("Idun" or the "Company") is a biopharmaceutical company focused on the design and development of small molecule therapeutics targeting the biochemical pathways that control apoptosis, or programmed cell death. Inappropriate regulation of cell death, or apoptosis, contributes to a wide array of diseases including neurodegenerative diseases (ALS, Parkinson's), cancer, and ischemic disorders (stroke). Idun's patented core technologies focus on the pathways that regulate cell death. The Company is developing small molecule drugs that specifically control the function of key proteins involved in the process of cell death: the caspase protease family of cell death effectors and the cell death modulators of the Bcl-2 family.

Apoptosis. Throughout the course of normal development and aging, certain cells and cell types are programmed to die in a controlled manner, a process known as apoptosis. This process is essential for the correct formation of the organs and complex systems of the body and is different than *necrosis* which occurs when a cell is severely injured and internal organelles swell and rupture. Cells that die by apoptosis shrink and are rapidly eaten by neighboring cells before there is any leakage of their contents. In the adult, dysfunction of the mechanisms that control apoptosis can lead to a variety of diseases. Excessive apoptosis results in the unwanted loss of healthy cells resulting in degenerative diseases. Insufficient apoptosis can lead to the uncontrolled cell accumulation most dramatically evident in cancer.

Bcl-2. Bcl-2 is a family of genes that can inhibit apoptosis or enhance apoptosis. Elevated Bcl-2 levels may occur in as many as 50% of all cancers, including 20-40% of prostate, 60-80% of breast, 50-70% of colorectal and 20-40% of certain lung cancers

Caspases. Caspases are a family of proteases (enzymes that cleave proteins essential to cellular functioning) responsible for carrying out the cell death process. In a living cell, these proteases are kept inactive by Bcl-2 proteins on the mitochondrial cell surface. When a cell is exposed to cell death signals such as ischemia, chemotherapy or radiation, Bcl-2 function is blocked and caspase activators initiate the cell death cascade.

Caspase Activators. Caspases are converted from their inactive form to active proteases with the help of caspase activator proteins. One such caspase activator is Apaf-1.

Idun is pursuing drug discovery programs in three areas: degenerative diseases of the central nervous system ("CNS"), cancer, and organ damage outside the CNS. With its CNS partner, Novartis, Idun is pursuing caspase protease inhibitors for the treatment of acute stroke, Parkinson's Disease and Amyotrophic Lateral Sclerosis ("ALS"). With its cancer partner, Abbott, Idun is pursuing small molecule antagonists of anti-apoptotic proteins, including those of the Bcl-2 family. Idun also has an unpartnered program focused on the development of caspase protease inhibitors for treating acute organ damage.

Idun was founded in 1993 and has received \$7 million of venture capital financing from Accel Partners, Venrock Associates, Arch Development Corp. (University of Chicago), Avalon Ventures and Delphi BioVentures. The Company has also received \$33 million of Preferred Stock investments from Novartis and Abbott, and \$20 million of research and development payments from Novartis.

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NOVARTIS AGREEMENT

In 1995, Idun established a major research and development collaboration with Novartis, Ltd. Under this four-year agreement, the companies formed an exclusive collaboration to develop drugs to control apoptosis in Central Nervous System ("CNS") diseases. As part of the agreement, Novartis purchased \$6 million of preferred stock in Idun (at \$2/share), provided Idun with a \$12 million credit facility that can be converted into equity prior to August 2006, and funds \$6 million per year in research and development expenses. Future compensation to Idun will include milestone payments and royalties on any products that are approved and marketed by Novartis.

Currently, Idun and Novartis have discovered several series of caspase inhibitors that inhibit nerve cell apoptosis and are being optimized for potency and bioavailability. Idun believes the first therapeutic application of its caspase protease inhibitors in the CNS will be in acute administration following a stroke. Experiments on animal models of stroke suggest that as much as 50% of the resulting cell death is apoptotic. Recent studies have demonstrated that caspases become activated in ischemic neurons and that caspase inhibitors can decrease the damage resulting from cerebral ischemia. Novartis plans to start clinical trials in 1999 with one of Idun's caspase inhibitors.

Future therapeutic applications from the Idun/Novartis collaboration may include Parkinson's disease, ALS, and Alzheimer disease.

ABBOTT AGREEMENTS

In December 1998, Idun established an exclusive collaboration with Abbott Laboratories to discover and develop small molecule cancer therapeutics that target the apoptosis pathway. These targets include the anti-apoptosis Bcl-2 family of proteins and the pro-apoptotic caspase activator, Apaf-1. In this collaboration, Idun is primarily responsible for developing molecular assays against targets in the core of the apoptosis pathway. These assays will be used by Abbott for high-throughput screening of compound libraries and compound analysis. Abbott will ultimately be responsible for the clinical development and marketing of any drugs that come out of this collaboration. In addition to Abbott's support of research and early development activities (\$15 million over three years), Abbott purchased \$15 million of preferred stock of Idun at \$3.50/share. Future compensation to Idun will include milestone payments and royalties on any products that are approved and marketed by Abbott.

Cancer can be considered a consequence of failure of abnormal cells to undergo apoptosis. Normal cells are dependent both on the presence of survival signals and on the absence of signals generated by sensors that monitor cellular damage. However, cancer cells survive without their tissue-specific survival signals and in the presence of cellular abnormalities that normally would lead to the induction of apoptosis. Cancer cells often accomplish this by up regulation of anti-apoptotic proteins like Bcl-2 or Bcl-x, thereby raising the "apoptotic threshold." Abnormal Bcl-2 expression is found in as many as 80% of breast, small cell lung, and prostate cancers and in a significant percentage of other cancers such as non Hodgkin's lymphoma and colorectal cancer.

IDUN'S PROPRIETARY HEPATIC DISEASE PROGRAM

Cells within the liver can undergo apoptosis due to viral infection, ischemia/reperfusion and hepatotoxic agents. Apoptosis has been observed in biopsies from patients with acute alcoholic hepatitis as well as in animal models of the disease. Alcoholic liver disease is a major health problem in the US, affecting approximately 2 million people. Acute alcoholic hepatitis presents in about 85,000 patients a year in the United States. Effective therapy is not available and current therapy is only supportive, with a significant mortality rate (10-40%). Idun believes that caspase inhibitors that prevent hepatic apoptosis triggered by a variety of stimuli may be useful in treating acute liver failure and liver failure in the setting of chronic liver disease. The Company has chosen alcoholic hepatitis as its first lead clinical indication and has demonstrated in animal models that administration of caspase inhibitors can inhibit the induction of ALT activity detected in the blood. ALT (alanine aminotransferase) is a liver enzyme, high blood levels of which are indicative of liver damage. Significantly improved survival (decrease in mortality) of treated animals has also been demonstrated following administration of Idun's caspase inhibitors.

Based on performance in the relevant preclinical efficacy models, one of Idun's proprietary small molecule caspase inhibitors has been selected as a lead compound, which is currently undergoing formulation, stability studies, toxicology testing, and GMP manufacturing. Idun expects to file an Investigational New Drug (IND) application in early 2000 and start a Phase I clinical trial in humans in acute alcoholic hepatitis shortly thereafter.

Strengths

- **Management and Scientific Team.** Abbott Laboratories and John Hancock's independent science consultants (Allan B. Haberman, Ph.D. and Lynn Klotz, Ph.D.) have each indicated that Idun's Scientific Advisory Board ("SAB") are worldwide leaders in the field of apoptosis research and are networked better than any other research group in their field. For example, two of the Company's Board members, Drs. Horvitz and Korsmeyer, recently received General Motors Cancer Research Foundation awards recognizing their individual achievements in cancer research. Dr. Horvitz's award relates to his identification of a set of genes that comprise the programmed cell death pathway, demonstrating that apoptosis is an active biological process that is genetically determined. Dr. Korsmeyer's award relates to the discovery of a gene (Bcl-2) that suppresses apoptosis.

- **Strong Patent Portfolio.** The strength of the Company's Scientific Advisory Board has enabled the Company to establish a strong portfolio of proprietary technology encompassing 34 patent families including 37 issued patents related to the cell death process. Idun has exclusive license to the patented sequence of the human proto-oncogene bcl-2, as well as related genes including bax, bcl-x, bad and mcl-1. The Company controls patent applications covering key cell death proteases including caspases 1, 3, 6, 7, 8, 9, 10, and 13. Idun has licensing agreements covering intellectual property from Dartmouth, Thomas Jefferson University, The Burnham Institute, MIT, the University of Michigan, Washington University and Arch Development Corporation.

- **Reasonable Valuation/Potential for Strong Returns.** Post-closing, Idun's equity value will be approximately \$133 million (based on 38 million shares at \$3.50/share). The Company's technology value (equity value minus cash) will be approximately \$93 million. Based on our analysis of public company valuations and valuations of private companies at pre-IPO financing, \$3.50/share appears to be a reasonable price for Idun. The technology value of companies that have recently received private equity and are similar to Idun (cancer related or signal transduction related), such as Mitotix, Signal, Ilex, Onyx and Sugan, were approximately \$70 - \$90 million before the recent sector-wide increase in values. Valuations for similar public companies, such as OSI, Isis, Imclone, Entremed, Sugan, Ilex, and Cell Pathways, are approximately \$200 - 300 million. This range of public company valuations reflect particular corporate collaborations and the development stage of products.

We believe that Idun's collaborations with Novartis and Abbott and the strong probability that it will have several compounds in clinical trials in the next few years will likely provide an IPO value of at least \$300 million - which will result in an IRR of approximately 30% over three years.

- **Apoptosis is Broad Platform.** Many serious diseases result from the improper regulation of apoptosis resulting in either too much or too little apoptosis. Idun has a number of research and development programs at various stages, ranging from early discovery to IND filing planned for 1999. As described more fully above, these programs involve a wide variety of diseases, including cancer, CNS, liver disease, cardiovascular disease and inflammation.

Apoptosis has been observed in biopsies from patients with acute alcoholic hepatitis as well as in animal models of the disease. Recent biochemical, morphological and pharmacological observations indicate that

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apoptosis accounts for a significant portion of the cell death that occurs following cerebral injury or ischemia (decreased blood flow). Bcl-2 expression has been shown to be upregulated in clinical models of follicular lymphomas, prostate cancer, breast cancer and other cancers. *In vitro* studies in numerous cancer cell lines have demonstrated that overexpression of Bcl-2 leads to multi-drug resistance. Studies in animal models of myocardial infarction (heart attack) suggest that apoptosis may contribute substantially to cell death. Studies have shown that inactivation of caspase 1 decreases production of certain cytokines and is protective in animal models of arthritis and septic shock.

John Hancock commissioned two consultants to review the field of anti-cancer therapies and project the importance of various cancer therapies in five years. Dr. Allan Haberman, a principal of the Biopharmaceutical Consortium, has indicated that apoptosis is one of the two most significant areas of research in the treatment of all cancers (the other being angiogenesis) while research into cancer vaccines and anti-metastatic therapies are significant but more limited. Dr. Lynn Klotz of Harvard University and Dr. Jay George, Assistant Director - National Cancer Institute, have concluded that if small molecule apoptosis-inducing drugs with reasonable pharmacological properties can be discovered and developed, those drugs combined with traditional anticancer drugs would find wide use. Drs. Klotz's and George's conclusions were based on their independent research and personal interviews with three prominent oncologists.

Idun's Product Pipeline

Indication	Target	Develop Assays	Identify Hits	Optimize Hits	File IND	Initiate Phase I
Hepatic Disease	Caspase Inhibitor					
Organ Preservation	Caspase Inhibitor					
Stroke/Park'n Disease (Novartis)	Caspase Inhibitor					
Stroke/Park'n Disease (Novartis)	Apaf-1 Inhibitor					
Cancer (Abbott)	Bcl-2 Antagonist					
Cancer (Abbott)	Akt Inhibitor					
Cancer (Abbott)	Apaf-1 Agonist					
Cardiovascular Disease	Caspase Inhibitor					
Inflammation	Caspase Inhibitor					

Risks and Mitigating Factors

• Early stage of product development. Although Idun's corporate partnerships with Novartis and Abbott as well as its own proprietary drug discovery efforts provide several avenues for potential success, it is possible that Idun's research in apoptosis does not lead to the discovery of any meaningful drug compounds. In addition, the development and commercial use of the Company's products are regulated as drugs by the FDA and comparable foreign regulatory agencies. The regulatory approval process for new drugs and drug delivery systems, including required preclinical studies and clinical trials, is lengthy and expensive. There can be no assurance that the necessary FDA clearances and subsequent approvals of the Company's products will be obtained in a timely manner, if at all. The failure by Idun or its corporate partners to develop a commercially successful drug would likely result in a loss of significant value to Idun's shareholders.

We believe that this risk is mitigated by the breadth of Idun's technology platform and the strength of the Company's corporate partners.

• Need for additional capital. The Company expects that its existing capital resources, together with the estimated net proceeds from this offering, will enable the Company to maintain its current and planned operations for the next 30 months. Idun will need to raise substantial additional funds through additional financings including public or private equity offerings and collaborative research and development arrangements with corporate partners. We believe that through the results of its own proprietary research programs, its collaborations with Novartis and Abbott, or products that it may in-license, Idun will have one or more products in clinical trials during the next three years. At that stage, Idun will be able to raise substantial capital in an initial public offering, merger, or other corporate financing, that will allow the Company to successfully complete its trials and bring a product to market.

• Idun faces significant competition. Competition in the research and development of therapeutics in the apoptosis field is intense and expected to increase. To date, there have been no FDA approvals of therapeutics in this field. The Company believes that other medical and pharmaceutical companies are engaged in research and development in the apoptosis field (e.g., Merck, Vertex and others). In addition, other technologies or products may be developed that have an entirely different approach or means of accomplishing the enhancement of apoptosis therapeutics that would render the Company's technology and products uncompetitive.

In the "core" of the apoptosis pathway, Idun has licensed extensively to create a formidable patent portfolio. In its two target focuses, Bcl-2 family and caspases, Idun has seven issued patents covering eight genes. These patents do not guarantee Idun freedom to operate in the future in all of its activities, but they do provide two important things: 1) a strong patent position to negotiate with competitors that may have related or overlapping intellectual property; and 2) an incentive for large pharmaceutical companies (some of which are competitors today) to invest resources and contribute their expertise (through partnership) to the development of Idun's drug targets. To attract partners, Idun has supplemented its patents with additional intellectual property or know-how, including the recognized thought leaders in the apoptosis field (Scientific Advisory Board and Consultants) and high quality, peer-reviewed basic research in apoptosis biology. Both of these activities place Idun in a strong competitive position regarding identification and optimization of compounds that interact with the key apoptosis regulatory molecules.

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PRINCIPAL STOCKHOLDERS

	Prior to Offering Number of Shares	After Offering Number of Shares	Percentage Owned (fully diluted)
PREFERRED STOCKHOLDERS			
Novartis	5,981,366	5,981,366	15.7%
Abbott	4,285,714	4,285,714	11.2%
Venture Capital Firms	11,324,272	12,752,844	33.4%
John Hancock	0	1,428,572	3.7%
Others	2,341,540	2,341,540	6.1%
	23,932,892	26,790,035	70.2%
COMMON STOCKHOLDERS			
	7,546,268	7,546,268	19.8%
Issued Options/Warrants	3,801,084	3,801,084	10.0%
TOTAL SHARES (FULLY DILUTED)	35,280,244	38,137,387	100.0%

BOARD OF DIRECTORS

Costa G. Sevastopoulos, Ph.D.	Chairman, President and CEO of Ixsys, Inc.
Anthony B. Evnin, Ph.D.	General Partner of Venrock Associates
John C. Reed, M.D., Ph.D.	Scientific Director of the Burnham Institute
Paul H. Klingenstein.	Klingenstein Management
Steven J. Mento, Ph.D.	President and CEO of Idun Pharmaceuticals, Inc.
Stanley T. Crooke, M.D., Ph.D.	Chairman and CEO of Isis Pharmaceuticals

SCIENTIFIC ADVISORY BOARD

John C. Chabala, Ph.D.	President and Chief Scientific Officer of Pharmacopeia, Inc.
Carlo M. Croce, M.D.	Director, Kimmel Cancer Institute (Thomas Jefferson University)
H. Robert Horvitz, Ph.D.	Professor of Biology at MIT
Stanley J. Korsmeyer, M.D.	Director of Molecular Oncology at the Dana-Farber Cancer Institute
Martin Raff, M.D.	Professor of Molecular Neurobiology at University of College London
John C. Reed, M.D., Ph.D.	Scientific Director of The Burnham Institute
Craig Thompson, M.D.	Professor of Medicine at University of Chicago

MANAGEMENT

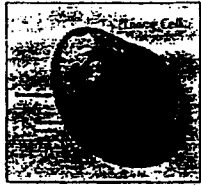
Steven J. Mento, Ph.D. President, CEO and Director since 1997. Prior to joining Idun, Dr. Mento was President of Chiron Viagene and Vice President of Chiron from 1992 to 1997. Dr. Mento also held various positions with American Cyanamid Corporation from 1982 to 1992, including Director of Viral Vaccine Research and Development at Lederle-Praxis Biologicals.

Kevin J. Tomaselli, Ph.D. Vice President, Science and Technology. Prior to founding Idun, Dr. Tomaselli was formerly a Senior Scientist at Athena Neurosciences, Inc. Dr. Tomaselli received his B.S. degree in Biology from Tufts University and his Ph.D. in Neuroscience from the University of California, San Francisco.

M.J. Winship, M.D. Vice President of Product Development. Dr. Winship joined Idun in 1998. Previously, he held director positions at Hoechst Marion Roussel and was Medical Director for Clinical Research at IMMUNOMEDICS, Inc. Dr. Winship received his B.S. degree in Medicine and his M.D. from Northwestern University.

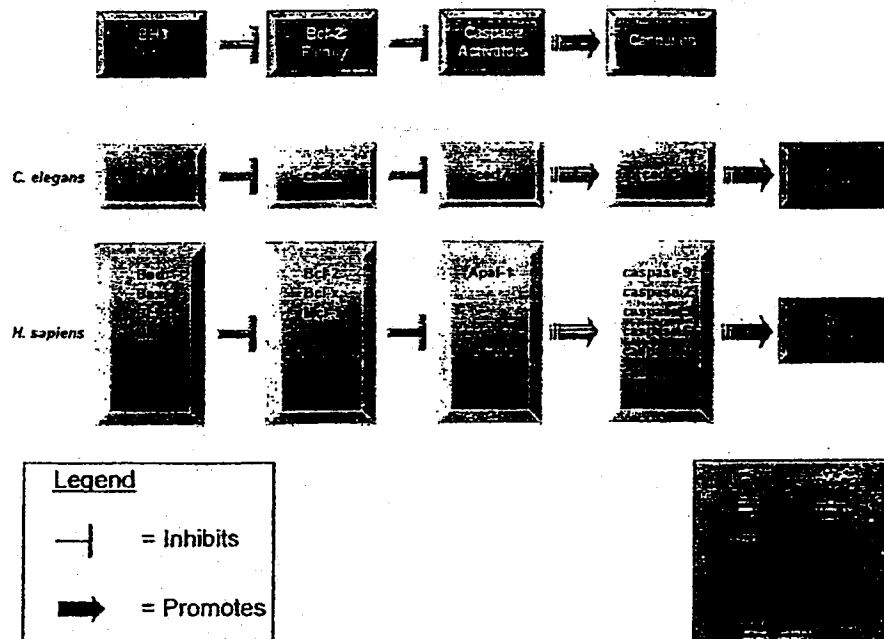
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Scientific Overview



Apoptosis is a genetically controlled form of cell suicide. Apoptosis, or programmed cell death, is important for embryonic development as well as the maintenance of adult tissues and organs. Insufficient or excessive apoptosis contributes to a number of human diseases. The genes and proteins that comprise the apoptosis pathway were initially identified genetically in model organisms, for example, in the roundworm *C. elegans*, and are recapitulated in human cells (Figure 1).

Figure 1. The Apoptosis Pathway



Idun Pharmaceuticals, Inc.

Balance Sheets

	December 31	
	1998	1997
Assets		
Current assets:		
Cash and cash equivalents	\$25,436,051	\$ 2,612,040
Short-term investments, available-for-sale	4,515,535	11,548,883
Interest receivable	219,313	431,184
Other current assets, net	130,519	160,213
Total current assets	30,301,418	14,752,320
Cash-restricted	349,307	508,085
Property and equipment, net	2,366,878	1,945,106
Other assets	56,721	5,981
	<u>\$33,074,324</u>	<u>\$17,211,492</u>
Liabilities and stockholders' equity		
Current liabilities:		
Accounts payable	\$ 255,087	\$ 155,596
Accrued expenses	604,325	563,196
Current portion of capital lease obligations	745,182	685,362
	<u>1,604,594</u>	<u>1,404,154</u>
Deferred revenue from related party	7,500,000	1,500,000
Capital lease obligations, less current portion	1,122,758	924,717
Note payable to related party, including accrued interest	13,675,233	12,955,233
Commitments		
Stockholders' equity:		
Preferred stock, \$.001 par value; 28,291,667 shares authorized, issuable in series:		
Series A convertible, 1,225,000 shares authorized, 745,000 shares issued and outstanding, liquidation preference of \$74,500	745	745
Series B convertible, 13,500,000 shares authorized, 12,862,315 shares issued and outstanding, liquidation preference of \$7,099,998	12,862	12,862
Series C convertible, 9,200,000 shares authorized, 3,043,097 shares issued and outstanding, liquidation preference of \$6,086,194	3,043	3,043
Series D convertible, 66,667 shares authorized, 15,400 shares issued and outstanding, liquidation preference of \$46,200	15	-
Series E convertible, 4,300,000 shares authorized, 4,285,715 shares issued and outstanding, liquidation preference of \$15,000,003	4,286	-
Common stock, \$.001 par value; 75,000,000 shares authorized, 7,546,268 and 5,375,092 shares issued and outstanding at December 31, 1998 and 1997, respectively	7,546	5,575
Additional paid-in capital	28,455,169	13,238,096
Note receivable from officer	-	(37,500)
Unrealized gain on short-term investments	4,342	7,378
Accumulated deficit	(19,316,269)	(12,802,811)
Total stockholders' equity	<u>9,171,739</u>	<u>427,388</u>
	<u>\$33,074,324</u>	<u>\$17,211,492</u>

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Idun Pharmaceuticals, Inc.

Statements of Operations

	Years ended December 31	
	1998	1997
Revenue under collaborative research agreements with related parties	\$ 6,417,781	\$ 6,187,501
Costs and expenses:		
Research and development	10,334,215	7,987,485
General and administrative	2,422,348	2,168,790
Total costs and expenses	12,756,563	10,156,275
Loss from operations	(6,338,782)	(3,968,774)
Interest income	691,068	918,995
Interest expense	(865,744)	(891,401)
Net loss	(6,513,458)	(3,941,180)
Unrealized gain (loss) on short-term investments	(3,036)	7,378
Comprehensive net loss	<u>\$ (6,516,494)</u>	<u>\$ (3,933,802)</u>

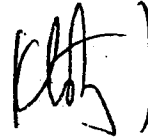
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Idun Pharmaceuticals, Inc.

Statements of Cash Flows

	Years ended December 31	
	1998	1997
Operating activities		
Net loss	\$ (6,513,458)	\$ (3,941,180)
Adjustments to reconcile net loss to net cash used in operating activities:		
Depreciation and amortization	728,125	572,343
Loss on disposal of property and equipment	3,877	-
Forgiveness of note receivable from officer	37,500	37,500
Changes in assets and liabilities:		
Cash-restricted	158,778	126,915
Other current assets	240,569	(195,478)
Other assets	(50,740)	21,999
Accounts payable	126,685	(15,524)
Deferred revenue	(1,500,000)	1,312,499
Accrued expenses	807,329	851,916
Net cash used in operating activities	(5,961,335)	(1,229,010)
Investing activities		
Purchases of marketable securities	(5,548,777)	(16,114,045)
Proceeds from sales/maturities of marketable securities	12,579,089	8,450,000
Purchases of property and equipment	(1,154,882)	(45,638)
Proceeds on disposal of property and equipment	2,104	-
Net cash provided by (used in) investing activities	5,877,534	(7,709,683)
Financing activities		
Proceeds from note payable to related party (Note 2)	7,500,000	-
Proceeds from capital lease obligations	990,224	-
Payments on capital lease obligations	(759,557)	(598,625)
Proceeds from issuance of Series E convertible preferred stock, net	14,960,003	-
Proceeds from issuance of common stock, net	217,142	38,440
Net cash provided by (used in) financing activities	22,907,812	(360,185)
Net increase (decrease) in cash and cash equivalents	22,824,011	(9,498,878)
Cash and cash equivalents at beginning of year	2,612,040	12,110,918
Cash and cash equivalents at end of year	\$25,436,051	\$ 2,612,040
Supplemental schedule of noncash activities:		
Property and equipment acquired under capital lease obligations	\$ -	\$ 371,407
Conversion of accounts payable to capital lease obligations	\$ 27,194	\$ 145,755
Issuance of Series D convertible preferred stock	\$ 46,200	\$ -
Supplemental disclosure of cash flow information:		
Interest paid	\$ 145,744	\$ 171,401

From: Lynn C. Klotz [LynnKlotz@compuserve.com]
Sent: Tuesday, June 20, 2000 6:46 PM
To: Blewitt, Stephen
Subject: Preliminary Abbott basket analysis



It took me less time than I thought to consolidate my notes, so here it is in the attachment. I will not do any more work, until we agree on next steps. I am a little under two days work so far.

- Lynn

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(prepared by Lynn C. Klotz, PhD)

1

Preliminary Analysis of Abbott Drug Basket

file: abbott-bask

General Thoughts, Ideas and Questions

The basket is really two baskets

Some of the drugs in the basket are well along in clinical trials and represent new but more traditional approaches to diseases. In contrast, the remaining drugs are cytostatic cancer agents for cancer, and since this is a new untried strategy for everyone, it is high risk. The risk is compounded by the fact that most are in discovery, not in clinical trials.

which ones?

In our analysis, we should perhaps treat the basket as two, and come up with independent courses of action for each. The traditional drugs in the basket cover a wide range of diseases and thus reduce the risk of competitor's drugs totally shutting Abbott out.

Some thoughts on cytostatic drugs

There is a general clinical trials issue for cytostatic drugs: Many will enter trials in combination with conventional cytotoxic drugs and effective combinations will have to be determined empirically. Intermediate and surrogate measures of biological response will have to be developed. Regulatory agencies are grappling with the same issues.

The idea of using cytostatic drugs in combination with traditional drugs is however enormously appealing.

Do cytostatic agents reflect Abbott's major cutting-edge cancer strategy? If not, why are they being offered to Hancock?

Did they find the ones?

Precisely what is Hancock buying?

In the areas where Abbott is still in discovery and doesn't have specific drug candidates will Hancock be buying royalty rights for all compounds, the first to enter clinical trials or the first to enter the marketplace? Rights to the first to enter the marketplace is greatly preferred, since it eliminates the risk that the drug will make it through trials. This is one way to deal with the cytostatic area where the candidates are not yet in clinical trials.

what we love.

For some compounds, Abbott is conducting clinical trials for one indication, but they state that the compound has shown promise for other indications (off label or not) and diseases. It is

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(prepared by Lynn C. Klotz, PhD)

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preferable that Hancock has royalty rights for the compound itself— that is all indications and diseases, rather than the first indication for which it is being tested in trials. .

How do we value the technical aspects of the drug basket and competitive drugs?

First, we might search the business press and MedLine to validate Abbott's claims and analysis for each drug in the basket. Then, for some (many?) basket drugs we should seek the opinion of one to two experts. Literature searching one basket drug is likely a four to five hour task, and may be necessary preparation to prime us with good questions for the experts. We should not need more than two hours of an expert's time. From the point of view of due diligence, experts should be retained for most of the drugs.

How do we value sales of the drug basket?

Estimating actual sales of drugs in the basket is difficult, but is key for deciding on the amount of investment and royalty rate. Along with clinical trials, success risk it is the other main source of risk, assuming Abbott doesn't just disappear. Abbott's sales estimates are likely all high, because they would need to be optimistic to sell the drugs/programs internally. A few ideas for schemes for estimating sales are presented below:

1) In this scheme, determine the dollar sales for the top five (ten or twenty?) drugs in each therapeutic area (disease targets), and the average sales of all drugs in that disease area. This data is likely available for many of the disease targets—and Abbott presents some data. Then assume both: optimistically, sales will reach a level of the average of the top five; and conservatively sales will reach the average of all drugs in that area—to give us a feel for the range of sales. For example, cancer and antibiotic markets are highly fragmented, so the average sales of a particular drug is likely small, perhaps less than \$100 million. The average sales of the top five drugs may also be less than \$500 million, less than half of Abbott's projected sales. Of course, we must still take into account the average probabilities that the drugs not fail in clinical trials and reach the marketplace.

2) In this scheme, we try to estimate sales, and probabilities more from "first principles." Start with Abbott's sales estimates and adjust them downward based on market risk factors. The average probabilities that the drugs ever reach the marketplace must be separately taken into account, and should be adjusted upward or downward based on clinical trials risk factors.

The clinical trials risk factors are:

- uncertainties about the targets key role in the disease (would adjust downward the probability that the drug reaches the marketplace)
- uncertainties about toxicity (would adjust probability downward)

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(prepared by Lynn C. Klotz, PhD)

3

- easily defined or fuzzy clinical trial endpoints (would adjust probability upward or downward). For example, antibiotics have easy endpoints--the patient get better and no evidence of infection; cytostatic drugs have difficult to measure endpoints when in combination with traditional drugs.

We would adjust the development phase probabilities using factors ct_i which range from perhaps zero to above one. We would need to define the appropriate adjustment factors

The market risk factors are:

- number of competitors
- efficacy and side-effects of Abbott's drug vs. competitor's drugs
- cost of Abbott drug vs competitor's drugs
- market need, dire to modest

We would adjust downward Abbott's sales estimates using factors mr_i between zero and one.

Of course determining the ct_i and mr_i factors is somewhat guess work, but at the very least the effort would allow us to better focus on the issues and get some idea of value and risk of the package.

Thoughts on the investment risk spectrum:

- *Example of a zero risk approach:* If Hancock received a guaranteed return on its investment each year increasing yearly regardless of sales, so that the internal rate of return was significant (e.g., 15%), there would be no risk but also no upside reward. One way of receiving the return would be for it to start, for example, in 2003 and ramp up to a maximum in 2015 and decline over the next five years. Under this scenario, Abbott would be paying return from the anticipated drug sales, and Abbott would experience all the up-side and down-side. Hancock would have no risk.
- *Example of an intermediate risk approach:* Receive a guaranteed internal rate of return of for example 5% to 7% as in the above, and receive the rest of the return based on actual sales, so upside potential exists. In this model with a 7% return, one could perhaps even take Abbott's likely inflated sales estimates, since it is all upside above 7%. This removes much of the uncertainty of estimates of eventual sales.
- *Highest risk approach:* Hancock does its best to estimate what it expects for sales on the drug basket, makes the appropriate investment with an appropriate royalty rate, and receives all its return as royalty on actual sales.

An idea for simplifying the financial calculations of appropriate investment amount and royalty rate to give an acceptable internal rate of return (IRR) to Hancock.

*These
are
the
approach
OH
look?*

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Since all the drugs in the basket which are in clinical trials are about the same phase of clinical trials (this excludes all the cytostatic agents except one) begin sales approximately between 2003-2005 and ramp up to maximum sales in approximately 2010-2013, and patents expire about 5 years later, we could use the linear IRR model developed at present only for single drugs by treating the package as a single drug, with total sales and average probability. (

This will be a quick and dirty way, and likely as good as a more detailed model, to get in the range of reasonable royalty return.

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Summary Profile of the Basket

Drug	Disease Targets	Mechanism of Action	Stage of Development	Preliminary Assessment Promise/Market-risk	Projected Maximum Sales
ABT-980	benign prostatic hyperplasia (BPH)	alpha 1a adrenoceptor antagonist	phase II completed, phase III begun?	high/medium	\$700 mil. (worldwide)
ABT-627	cytostatic therapy for hormone resistant metastatic prostate cancer (PCA)	endothelin ET-1 antagonist for Eta receptor	phase II completed, phase III begun?	medium/medium	\$1,000 mil. (worldwide)
ABT-773	bacteria resistant to present antibiotics	new class of antibiotics (ketolides)	phase III?	high/low	\$1,000 mil. (worldwide)
ABT-594	diabetic neuropathic pain	cholinergic channel modulator (chCM)	phase IIa, Phase IIb about to begin	high/medium	\$1,100 mil. (worldwide)
A-254751	cytotoxic therapy for late stage breast, NSCL, ovarian, and pancreatic cancers	binds to the colchicine site on tubulin to inhibit microtubule formation	preclinical or phase I?	high/high	\$680 million (worldwide)
ABT-518	cytostatic therapy for late stage breast, NSCL, ovarian, and pancreatic cancers	matrix metallo proteinase inhibitor (MMP1)	preclinical or phase I	high/high	\$850 mil. (worldwide)
FTI	same as ABT-518	farnesyl-transferase inhibitors which block either farnesylation of RAS or RhoB	early preclinical?	high/high	\$850 mil. (worldwide)
Uro-kinase inhibitors	same as ABT-518	serine protease inhibitor	early preclinical	high/high	\$850 mil. (worldwide)

Note to table: Market risk, in this preliminary assessment is a qualitative "feel" based on uncertainties in technical strategy, uncertainties in clinical trials, perceived value of the drug compared to others, number of competitors.

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Issues, Questions, Evaluation Tasks

ABT-980 (alpha 1a adrenoceptor antagonist for BPH).

Product is scheduled to begin Phase III clinical trials in second quarter 2000. Has it begun Phase III? What were the results of Phase II?

According to Abbott, uroselective agents such as Tamsulosin (Flomax®) and ABT980 are predicted to be the standard of care replacing existing non-selective agents. We should search the literature for a confirmation of that statement, and understand the medical communities view of selective vs non-selective agents and competitor potential of Flomax.

At time of ABT980 launch, Abbott expects competition from several other alpha 1a blockers. Abbott lists three key competitive drugs in clinical trials, one lead competitor/drug is Yamanuchi/Glaxo's drug Dutasteride which is in Phase III trials. As a "spot check," we should learn what we can about the status and promise of that drug?

ABT 627 (endothelin ET-1 antagonist for Eta receptor for metastatic prostate cancer).

Abbott classifies this drug as a cytostatic agent not a cytotoxic agent, because it only retards progression of PCa and doesn't cure it. Abbott is positioning it as a drug that delays progression and improves quality of life for HRPc patients. In clinical trials, quality of life is a somewhat fuzzy endpoint, but some measure can be achieved. Since prostate cancer usually progresses slowly, measuring a delay in progression may be difficult in clinical trials? What effect will this have on FDA's assessment?

Has the drug yet entered Phase III trials, if so when? Are preliminary data available? Is it the only Abbott cytostatic agent in advanced clinical trials?

The drug is in Phase I trials for other cancer types. Animal studies (Abbott's or general literature knowledge?) indicate that there is potential for other non-cancer conditions? Would Hancock receive royalties for these too; put another way, is Hancock buying royalty shares for all sales of the compound, or for just prostate cancer?

For advanced PCa, hormone therapy is the main treatment, but treatment becomes ineffective after two to three years with reduced life expectancy of only 12 months, and no chemotherapy has shown promise for these patients. Perhaps we should "spot-check" the accuracy of these statements. (Patients resistant to hormone therapy are called HRPc.)

Novatrone (Novantrone/Immunex) is the only drug for HRPc with pain. We should perhaps ascertain its promise as a competitor, as a "spot-check" on Abbott's reasoning.

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Are there enough HRPcA patients to justify Abbott's \$1 billion projected sales of the drug, especially since there are at least 10 competitive drugs in advanced clinical trials? How will PSA testing eventually reduce the number of patients with metastatic disease? I believe it has a great success in the US.

ABT-773 (a new class of antibiotics for bacteria resistant to present antibiotics)

We should MedLine and business database search ketolide antibiotics to independently determine their promise. Then an expert like Stuart Levy should be consulted. Andy Onderdonk might also be able to supply the names of experts for us.

Phase II clinical trial results look impressive to me: highly efficacious against four bacteria. Why did they pick those four bacteria? Since the multicenter phase II clinical trials were completed in April 1999 and the data have been analyzed, the drug should be in phase III. Is it? How far along?

Antibiotic clinical trials are relatively straight forward, the infection disappears and the patient gets better in short time.

Adventis' ketolide (telithromycin/Ketek) is ahead with an NDA filed 3/00. Has it been approved?
How does Abbott's ketolide compare?

ABT-594 (cholinergic channel modulator (chCM), initial indication is for diabetic neuropathic pain).

The drug, according to Abbott, is expected to be the first cholinergic channel modulator on the market. How promising is this approach compared to others? We should look at the phase IIa results.

There may be a problem with the therapeutic window. Phase I studies indicated a maximum tolerated dose of 150 ug/day for an oral formulation. Abbott says for capsules results "suggest that higher doses can be tolerated." How much higher? Phase IIa studies suggest "a trend towards analgesic effect at 75 ug bi daily (BID). Thus, the therapeutic window may only be slightly greater than one, and about 10% of patients at 75 ug BID had a number of uncomfortable side effects such as headaches, nausea, etc. There appears to be some risk of not passing phase II clinical trials. We should perhaps get an assessment from a pain clinical-trials expert.

While the initial indication is narrowly defined as diabetic neuropathic pain, the ultimate market is for neuropathic chronic pain in general. This is an underserved market according to Abbott.

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*Drug expert on chemicals
request recall from Abbott?
75 ug - off patent
what if generic 150 - of 225
could not correct with Abbott?*

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Pregabalin/Park-Davis is in Phase III (for neuropathic pain?) and is expected to be introduced in 2001. GV 196771 Glaxo is in phase II for neuropathic and chronic pain. These appear to be serious competitors, we should learn what we can about them from the literature, and an expert assessment.

A-254751 (binds to the colchicine site on tubulin to inhibit microtubule formation, for MDR resistant tumors)

The drug "inhibits the *in vitro* polymerization of microtubules." Also inhibits a broad spectrum of tumor-derived human cell lines including those that are paclitaxel and doxorubicin resistant due to MDR and other phenotypes. This meets a important market need.

In animal synergic (definition?) and xenograft models, "A-254751 demonstrated impressive oral anti tumor activity."

In dogs, there have been adverse cardiovascular effects (caused by vasoconstriction?), that have not been observed in patients. Does this mean that Phase I trials are underway, completed?

Abbott states that it will thoroughly quantify the risk from vasoconstriction in humans caused by intermittent and repeated dosing of the drug. The drug may well present too big a risk to humans and not make it out of phase I. What is Abbott's current status and assessment of the drug?

There are seven competitive colchicine site ligands in development by competitors. Three have been abandoned in Phase I (not safe) and one in phase II (why?). Three are still actively being developed. This both highlights the safety risk and the promise. We need a cancer experts assessment of the safety and promise of the approach (either Peter Glazer or someone he recommends).

I am surprised that their maximum sales estimate is less than \$1 billion, as drugs that are effective and can defeat MDR should find high usage in a total cytotoxic market of over \$7 billion.

ABT-518 (matrix metallo proteinase inhibitor program, cytostatic therapy for late stage breast, NSCL (non-small cell lung cancer), ovarian, and pancreatic cancers)

The MMP enzymes are elevated in cancer and are associated with the ability of cancers to metastasize. Inhibitors of MMP's may suppress tumors by suppressing invasion of the cancer into the blood and they may also suppress angiogenesis. Since they don't attack the tumor cells themselves, they are called cytostatic agents and represent chronic therapy. These may be small

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molecule competitors to Entremed's (Folkman's lab) angiogenesis drugs.

Abbott states that there are more than 200 compounds in development for cytostatic targets. *A much?*

This is a program targeting gelatinase A and gelatinase B, because Abbott claims these two MMP's are particularly important in tumor progression. We should see what the literature says about the promise of gelatinase targeting as opposed to other enzymes involved in invasion.

Would Hancock's rights extend to all MMP inhibitors developed in the program or be limited to ABT-518?

Therapeutic window of 20 in rats bodes well to the drug.

These agents have the advantage that they can be given in combination with current therapy, so the FDA may allow clinical trials on early-stage cancer patients which would expand potential market too. In addition, in my view, these add-on combination therapies have unusual promise but are high market risk because they are new.

AB518 has been tested in animals with good pharmacokinetics and toxicology.

Abbott expects sales to begin in 2006 peaking in 2012. This means the whole clinical trial process will take about 6 years which is about right for trials today. Will this drug enter Phase I this year, so that the time schedule can be met?

FTI program (farnesyltransferase inhibitors which either block farnesylation of RAS or RhoB, cytostatic therapy for late stage breast, NSCL, ovarian, and pancreatic cancers)

These agents appear to inhibit angiogenesis, and so are cytostatic agents.

According to Abbott, "farnesyltransferase inhibitors have demonstrated impressive anti tumor activity in preclinical models with activity equivalent to or better than that achieved with conventional cytotoxic chemotherapy given at maximal tolerated dose."

This approach is validated by the fact that there are 12 competitor drugs in development, five in clinical trials. Abbott may be late in a crowded field. Janssen Pharmaceutica/R-11577 is in Phase III and Schering-Plough/Sch66336 is in Phase II. We should learn about the promise of these two drugs, both to assess the real promise of the approach and the potency of the competition.

While Abbott is not yet in clinical trials, has it picked a promising candidate?

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Urokinase inhibitor program (serine protease that activates plasminogen to plasmin which breaks down basement membrane and interstitial matrix, cytostatic therapy for late stage breast, NSCL, ovarian, and pancreatic cancers)

Urokinase breaks down basement membrane and interstitial matrix required for tumor growth and metastasis.

Abbott's urokinase program is more advanced than competitors (at least seven competitors in preclinicals) with potency 20 fold more than nearest competitor.

Again, the number of competitors developing urokinase inhibitors validates the approach.

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Blewitt 11/17/2006 Deposition Exhibit 6

D's Exhibit 522

JOHN HANCOCK MUTUAL LIFE INSURANCE COMPANY
 Bond and Corporate Finance Group
 Recommendation to B.I.C: June 4, 1999
 Report of Purchase to C of F: June 15, 1999
 Report Date: June 4, 1999

Private

Purchase Recommendation

GBSA \$ 40.0 mm	CLDBLK \$ 8.5 mm	REMBLK \$ 8.5 mm
PENPAR \$ 4.0 mm	LOLA \$ 1.0 mm	GRPLTC \$ 1.0 mm
RTLLTC \$ 2.0 mm	GRP.NPR \$ 1.0 mm	UNIV \$ 1.5 mm
SERS/PENN \$ 3.5 mm		LUCENT \$ 4.0 mm

Summary

Purdue Realty L.P. (Lessor)
 Purdue Pharma L.P. (Lessee)
 Norwalk, CT

We are recommending the purchase of \$75 million of a \$112 million issuance of 7.30% Amortizing Senior Mortgage Secured Notes due 2019 of Purdue Realty L.P. (the "Lessor"). Proceeds from the Notes will be used to finance the acquisition cost and anticipated improvements for the 529,000 square foot office facility known as One Stamford Forum, located in Stamford, Connecticut. The office facility will serve as the corporate headquarters for Purdue Pharma L.P., The Purdue Frederick Company, Norwell Land Company and The Purdue Pharma Company and their associated U.S. companies. Purdue Pharma L.P. will enter into a fully amortizing 20-year bond type lease with Purdue Realty L.P. for the entire facility. The Amortizing Senior Mortgage Secured Notes will be secured by an assignment of lease payments from Purdue Realty L.P. and a first security mortgage on the property.

Purdue Pharma L.P., The Purdue Frederick Company, Norwell Land Company, The Purdue Pharma Company, Purdue Associates L.P., PRA Holdings, Inc., Purdue Pharma Inc., and Purdue Associates Inc. (collectively, "Purdue" or the "Company") are part of a worldwide group of associated pharmaceutical companies. The Company has developed and is now an important factor in the strong opioid analgesic market. Its two main products, MS Contin and OxyContin accounted for \$470 million in gross revenues in 1998, which was 57% of the strong opioid analgesic market. Purdue and its related subsidiaries are privately-owned companies which are wholly-owned, both directly and indirectly through family trusts and holding companies, by the family of Mortimer D. Sackler, M.D. and by the family of Raymond R. Sackler, M.D. For the fiscal year ended December 31, 1998, Purdue reported \$534.2 million in net revenues and net income of \$61.4 million.

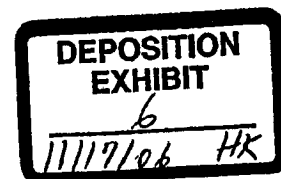
Our recommendation is based upon the Company's leading position in the growing opioid analgesic market, historically stable portfolio of products, and strong pipeline of promising pharmaceuticals.

Report Authors:

Anthony C. Urick, Second Vice President
 Stephen J. Blewitt, Senior Investment Officer
 Kevin M. Crosby, Junior Analyst

JOHN HANCOCK MUTUAL LIFE INSURANCE COMPANY

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 JH11 012420



Bond and Corporate Finance Group
 Recommendation to B.I.C: June 4, 1999
 Report of Purchase to C of F: June 15, 1999
 Report Date: June 4, 1999

PrivatePurchase Recommendation

GBSA \$ 40.0 mm	CLDBLK \$ 8.5 mm	REMBLK \$ 8.5 mm
PENPAR \$ 4.0 mm	LOLA \$ 1.0 mm	GRPLTC \$ 1.0 mm
RTLLTC \$ 2.0 mm	GRP.NPR \$ 1.0 mm	UNIV \$ 1.5 mm
SERS/PENN \$ 3.5 mm		LUCENT \$ 4.0 mm

LESSOR:

Purdue Realty L.P.

LESSEE:

Purdue Pharma L.P.

GUARANTORS:

All associated companies

ISSUE:

\$112 million 7.30% Amortizing Senior Mortgage Secured Notes due 2019

RATINGS:

JH: A3; Moody's: n/r; S&P: n/r;

BROKER:

Chase Securites Inc.

SIC CODE:

2830 - Drugs

PARTICIPANTS:

John Hancock	\$75.0 million
American General	30.0 million
National Life	<u>7.0 million</u>
	\$112.0 million

HANCOCKPARTICIPANTS:

Listed above

USE OF PROCEEDS:

To finance the acquisition cost and improvements for the 529,000 square foot office facility known as One Stamford Forum.

STATE OF INC.:

Delaware

YIELD:

7.41%

INTEREST:

Monthly

SPREAD:

+195 basis points over the interpolated 12 year Treasury

OAS SPREAD:

+188 basis points over the interpolated 12 year Treasury

CIRCLE DATE:

May 5, 1999

AVERAGE LIFE:

12.39 years

DURATION:

7.7 years

SINKING FUND:

Monthly payments of principal and interest

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TAKEDOWN DATE: Upon completion of documentation

CALL: Make-Whole at T+ 50 bps.

PUT: Change of Control (at Par)

HANCOCK HOLDINGS: \$45,000,000 7.03% Senior Notes due 2003

RELATED HOLDINGS: None

FINANCIAL COVENANTS: None

ANALYST: Stephen J. Blewitt, Senior Investment Officer

HOUSE COUNSEL: Jack Wallace, Esq.

SPECIAL COUNSEL: Hebb & Gitlin

Report Authors:
Anthony C. Urick, Second Vice President
Stephen J. Blewitt, Senior Investment Officer
Kevin M. Crosby, Junior Analyst

Transaction Overview

In January 1999, Purdue Pharma L.P., The Purdue Frederick Company, Norwell Land Company, and the Purdue Pharma Company and their associated U.S. companies announced their plans to relocate their headquarters from Norwalk, CT to One Stamford Forum, a 529,000 square foot office building located in downtown Stamford, CT. The property formerly served as the headquarters for GTE Service Corporation. Purdue Realty L.P., an associated company of Purdue, purchased the property on March 26, 1999 for \$77 million from Zurich Centre Properties, Inc., which recently purchased the property from GTE. Purdue Realty L.P. anticipates spending an additional \$35 million in capital improvements. The proceeds from the issuance of the \$112 million Amortizing Senior Mortgage Secured Notes will be used to finance the acquisition cost and improvements to the facility.

Purdue Pharma L.P. ("Lessee") will enter into a 20-year bond type lease with Purdue Realty L.P. ("Lessor") for the entire facility. The Amortizing Notes will be secured by an assignment of lease payments from Purdue Realty L.P., which will be guaranteed by Purdue Pharma and associated companies, and a first security mortgage on the property.

One Stamford Forum is a 13-story, Class A office building located at 201 Tresser Boulevard, in Stamford's downtown central business district. The property is situated on a six-acre parcel and has a 1,000+ space, three level parking structure which is accessible from five street locations. The location of One Stamford Forum allows convenient access for employees living in Manhattan and surrounding Connecticut towns due to the close proximity to U.S. Interstate 95 and a short walking distance to Metro-North commuter train line, less than two blocks away.

Purdue

Purdue Pharma L.P., The Purdue Frederick Company, Norwell Land Company, The Purdue Pharma Company, Purdue Associates L.P., PRA Holdings, Inc., Purdue Pharma Inc., and Purdue Associates Inc. (collectively, "Purdue" or the "Company") are privately-owned companies which are wholly-owned, both directly and indirectly through family trusts and holding companies, by the family of Mortimer D. Sackler, M.D. and by the family of Raymond R. Sackler, M.D. Purdue is engaged in the research, development, production and distribution of ethical pharmaceuticals, over-the-counter medicines and hospital products. While Purdue owns and markets well-known products such as Betadine - a topical antiseptic, and Senokot - a natural laxative, the Company's strength lies in controlled-release analgesics used for the treatment of moderate and severe pain (specifically, MS Contin and OxyContin). In 1998, Purdue generated \$534.2 million in net sales and \$72.2 million in operating profit.

Purdue Capitalization Thousands of Dollars	
	<u>Actual</u> <u>3/31/99</u>
Cash	\$ 1,441
Debt	
Bank credit facility	\$ 3,700
Senior Notes	<u>\$115,000</u>
Total Debt	\$118,700
Shareholder Equity	\$137,593
Total Capitalization	\$256,293

Pain Management Market

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Acute pain is caused by conditions such as headaches, muscle aches, bruises, traumas, and surgical procedures and lasts for less than three months. Chronic pain (pain that lasts longer than three months) is less frequent, but is reaching epidemic proportions in the United States, and according to the National Chronic Pain Outreach Association, 35 million individuals experience chronic pain.

In order to effectively manage varying degrees of pain, the World Health Organization developed the "Analgesic Ladder". This ladder was developed in order to assist health care professionals in matching the intensity of the patients pain with appropriate analgesic medications. Non-narcotic medications are used to treat acute mild to moderate pain and narcotics are used to treat severe pain. Severe pain has two different severity levels. For one level of severe pain weak narcotics such as codeine are recommended and for very severe pain, potent narcotics such as morphine are used. Recommended relief of varying pain levels is as follows:

1. *Mild pain:* Mild pain is treated with a single nonopioid analgesic such as acetaminophen, one of the NSAIDs with another nonopioid analgesic, or more recently, one of the Cox-2 inhibitors. Mild pain relief products represented approximately \$3 billion in sales in 1997 with all Acetaminophen products claiming \$1.2 billion in sales.
2. *Moderate to moderately severe pain:* When the treatment of moderate to moderately severe pain fails with nonopioids, a weak oral opioid such as codeine in combination with a nonopioid analgesic is used. This segment of the pain market was responsible for \$1.2 billion in sales in 1997 and includes products such as Vicodin, Tylenol with Codeine and Percodan.
3. *Severe pain:* Patients with severe pain who have failed to achieve pain relief with weak opioids should use a more potent product such as morphine in combination with or without a nonopioid analgesic. Severe pain relief products accounted for almost \$700 million in 1997 sales and the market is dominated by MS Contin, OxyContin and Duragesic.

Strengths

Diversified and Stable Portfolio of Products.

During the past 45 years, Purdue has developed an interesting product mix that provides stability of cash flow and exceptional growth potential. Approximately 16% of Purdue's revenues are generated by products that have been marketed for over 30 years, including Senokot, Betadine and Cerumenex. An additional 34% of Purdue's revenues are generated by products that have been marketed for approximately 15 years, including MS Contin and Uniphyll. Finally, 50% of the Company's revenues are generated by OxyContin, a product that is only three years old.

Purdue is the market leader in the strong opioid analgesic market. In 1984 when Purdue launched MS Contin tablets, morphine was available only in generic immediate-release forms. At that time, these generic forms of morphine sold less than \$5 million per year. Both physicians and patients were reluctant to use morphine because of addiction fears, because of morphine's reputation as a drug used for dying patients, and because physicians were not trained on pain management. Since 1984, Purdue has offered extensive education in pain management to health care professionals regarding efficacy, addiction, and pain management. Purdue has also developed multiple strengths of sustained release morphine products. As a result, MS Contin's gross sales reached \$169 million in 1998.

In 1995, Purdue launched its second controlled-release strong analgesic, OxyContin. This product, the successor to MS Contin tablets, was the first and remains the only controlled-release oxycodone product on the market. Since its launch in December 1995, OxyContin sales have developed faster than those for any other product in Purdue history. In 1998, OxyContin sales represented \$301.2 million in gross revenues and the product claimed a 36.7% market share in only its fourth year of distribution. Purdue has ten-years remaining on its patent for OxyContin and at this time there are no chemically equivalent products on the market.

Purdue's Portfolio of Products

Revenues (\$millions)

Product	Indication	Year Launched	Rx/OTC	1994	1995	1996	1997	1998
OxyContin	Pain	1995	Rx	-	3.4	49.4	146.5	301.2
MS Contin	Pain	1984	Rx	95.7	115.2	133.9	148.7	169.0
Senokot	Laxative	1955	OTC	27.3	32.1	35.4	42.4	48.7
Betadine	Antiseptic	1966 (a)	OTC	26.3	29.9	28.5	27.8	27.2
Uniphyll	Asthma	1984	Rx	29.7	33.5	36.5	26.5	33.2
Trisilate	Arthritis	1977	Rx	18.6	17.0	11.5	6.7	6.7
Others				17.2	20.1	16.9	13.4	15.5

(a) Purdue acquired Betadine in 1966.

Product Pipeline.

Purdue has aggressively re-invested in its business. In the past three years, the Company has invested \$243.0 million in research and development and expects to invest \$176 million in 1999 alone. As a result of Purdue's significant expenditures on R&D, the Company has seven important pain relief products under development that are targeted by Purdue for marketing approval in 1999 through 2003. The nature of the new products is principally the application of patented controlled-release technology to existing compounds already used in humans. This approach is expected to have a higher probability of FDA approval, usually costs considerably less and has a much shorter development cycle than a new compound.

The three most immediate products that Purdue is developing are BTDS, THCR and HHCR. BTDS, is a partial opioid analgesic delivered with a transdermal patch that the Company has in-licensed from Lohmann Therapie-Systeme. BTDS is expected to compete directly against the Duragesic patch and is believed to be longer acting than Duragesic. The product launch is scheduled for year 2000 and five year gross sales are estimated at \$600 million. THCR-Tramadol is a controlled-release, once-a-day analgesic based on tramadol, the active ingredient in Johnson & Johnson's immediate-release Ultram. Ultram has proven to be as effective as nonsteroidal anti-inflammatory drugs, but has less gastrointestinal side effects. Ultram has quickly become a \$320 million product and Purdue has teamed with Johnson & Johnson to market THCR-Tramadol as the only controlled-release product based on tramadol. This product is expected to be launched in year 2000 and five-year gross sales are projected to be \$1.1 billion, of which Purdue will realize approximately 30%. Hydromorphone Palladone or HHCR is a once-a-day controlled released analgesic based on the active ingredient in a widely prescribed analgesic. The product offers significantly higher potency than morphine with just a portion of the dosage. NDA filing was completed in December 1998 and final approval is expected in December 1999. The Company projects 5-year gross sales of approximately \$500 million.

Purdue Product Pipeline (1999-2002)			
Product	Description	NDA Filing	Projected 5 Year Gross Sales
BTDS Norspan	Partial opioid analgesic/Patch	Q2-2000	\$642 million
THCR Tramadol	Controlled-release analgesic	Q4-1999	\$1,139 million*
EDLA	Local anesthetic	Q3-2001	\$1,078 million
ACR	Controlled-release analgesic	Q4-2001	\$629 million
HHCR Palladone	Controlled-release hydromorphone	Q4-1998	\$489 million

*This represents combined J&J and Purdue sales. Purdue is expected to be 30% of the total.

Purdue is intent on continuing to invest in research and development and the Company believes that its recent research in novel anesthetics, diabetes and anti-cancer drugs have the potential to result in significant new sales opportunities outside of pain management.

Growing Pain Management Market.

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The U.S. pain relief market is estimated to be \$4.7 billion and is estimated to be growing by 7% per year. In addition, the U.S. opioid analgesic market is estimated at \$1.6 billion and is expected to grow at an annual rate of 12%. Key drivers of market growth include:

- increased awareness among physicians & patients of the benefits of proper pain management.
- an increase in the number of surgical procedures.
- growth in the number of elderly, the primary victims of arthritis.
- a rise in cancer.

Examples of this tremendous growth include OxyContin, Ultram and the new Cox-2 inhibitors. In only four years on the market, OxyContin has been able to garner an approximate 36.7% market share of the strong opioid analgesic market. Sales for this product have grown from \$3.4 million in 1995 to \$301.2 million in 1998. Another growth driver in the pain management market is Ultram. This product, which is a synthetic non-narcotic analgesic developed by Johnson & Johnson, has quickly emerged as the leading synthetic non-narcotic product. With \$320 million in sales in 1998, Ultram has had a major impact in the growing pain market. An additional driving force in the pain management market in the immediate future has been the introduction of the Cox-2 inhibitors. The Cox-2 inhibitors offer efficacy equivalent to the NSAIDs but without the serious gastrointestinal side effects. Monsanto's product Celebrex hit the market in January 1999, with synergistic indications for osteoarthritis and rheumatoid arthritis. Merck's Cox-2 inhibitor, Vioxx, should reach the market in June 1999, with indications for osteoarthritis and pain. Both Vioxx and Celebrex have multi-billion dollar sales potential.

Risks and Mitigating Factors

Competition.

Competition in the pharmaceutical industry is intense, with many industry participants. Pharmaceutical companies usually seek patents for their products, which prevent competitors from selling products using the patented technology during the life of the product. Once existing drugs lose their patent protection, they are often subject to generic competition. In addition, new products from competitors are always a potential threat to a company's current products and pipeline products.

In November 1998, after being off-patent for over five years, a generic version of MS Contin was approved. This drug is priced at approximately 50% of the price of MS Contin and the Company expects a 25% reduction in sales of MS Contin in 1999. In addition, Algos Pharmaceuticals expects to receive approval for its drug called Morphidex in 1999. Morphidex is a combination of a well known opioid, morphine and a drug commonly used in cough syrups, dextromethorphan. The product may have twice the efficacy of leading severe pain narcotics without increasing the side effects. Finally, Roxane Laboratories is expected to launch a product to compete against OxyContin in 1999. This product, called Roxicodone, has some pharmacological weaknesses relative to OxyContin. Additionally, Roxicodone is only approved for sale in 10mg and 30mg tablets while OxyContin is available in a full range of strengths.

Several factors help mitigate the risk of competition. First, Purdue has invested significant capital in its research and development of new products. In the past three years, the Company has invested \$243.0 million in research and development and expects to invest \$176 million in 1999 alone. This will help Purdue maintain a competitive edge over potential threats. Another factor that mitigates the risk of competition is strong patent protection on OxyContin and newly developed drugs. Purdue has ten-years remaining on its patent for OxyContin and will be patent protected on its newly developed drugs. This will prevent competitors from duplicating the process patented by Purdue.

While MS Contin sales will decline in 1999, OxyContin sales are projected to absorb the shortfall by growing from \$301 million in 1998 to approximately \$550 million in 1999. Additionally, the Company has

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JHII 012426

a strong pipeline of new drugs that could add \$100-\$200 million in revenues over the next two years. The Company's remaining drugs, Senokot, Betadine, Uniphyl and Trilisate, have been marketed for over 15 years and they provide a stable base of revenues totaling approximately \$115 million. Lastly, Purdue has the ability to substantially reduce spending on R&D if the Company's financial status is in jeopardy.

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Management

Mortimer D. Sackler, M.D. (82). Dr. Sackler is the Chairman and co-CEO of The Purdue Frederick Company and Purdue Pharma, L.P. Dr. Sackler received his medical doctor degree from Middlesex University School of Medicine. He is a Diplomate of American Board of Psychiatric Association and is a Fellow of American Psychiatric Association. Dr. Sackler was a co-founder and Associate Director of the Creedmoor Institute for Psychobiological Studies of New York.

Raymond R. Sackler, KBE, M.D. (78). Dr. Sackler is the President and co-CEO of The Purdue Frederick Company and Purdue Pharma, L.P. Dr. Sackler received his medical doctor degree from Middlesex University School of Medicine. He is a Diplomate of American Board of Psychiatric Association and is a Fellow of American Psychiatric Association. Dr. Sackler was a co-founder and Associate Director of the Creedmoor Institute for Psychobiological Studies of New York.

Edward Albright. Executive Vice President, General Manager of The P.F. Laboratories, Inc. Mr. Albright joined Purdue in 1994. Prior to joining Purdue, Mr. Albright was worldwide head of manufacturing for Sterling Drug, Inc., where he managed thirty plants. Mr. Albright received his B.S. degree at Cornell University and has graduate degrees in Bio Chemistry from the College of St. Rose and Rensselaer Polytechnic Institute. He also earned an Executive MBA from Kellogg School of Business at Northwestern University.

Stuart D. Baker. International General Counsel. Mr. Baker joined Purdue in 1994. Mr. Baker was, and continues to be a partner of Chadbourne & Parke LLP. Mr. Baker earned his B.A. from Hamilton College and his LL.B. from Columbia University.

Michael Friedman. Group Vice President of The Purdue Frederick Company. Mr. Friedman joined Purdue in 1985 and was appointed to his current position in 1988. He leads Purdue's Sales, Marketing and Commercial Development departments. Mr. Friedman was formerly CEO of Eulectic, Inc. and Vice President of Marketing of Hilti, Inc. Mr. Friedman received his B.A. from Brooklyn College and a MBA from the University of Connecticut.

Paul D. Goldenheim, M.D. International Director, Research and Product Development. Dr. Goldenheim joined Purdue in 1985 as Medical Director and was appointed to his current position in 1997. Dr. Goldenheim received his A.B. from Harvard College and M.D. from Harvard Medical School. Dr. Goldenheim began his teaching experience at Harvard College in 1972 as a Teaching Fellow. In 1981 he was appointed Instructor in Medicine and in 1981-82 as Clinical Assistant in Medicine and Assistant in Medicine, Massachusetts General Hospital.

Edward B. Mahony. Vice President, Chief Financial Officer. Mr. Mahony joined Purdue Frederick in 1993. Prior to joining Purdue, Mr. Mahony was at Bristol-Myers Squibb where he was Vice President, Controller, of BMS's Consumer Products Division. Mr. Mahony received his B.S., Accounting at Manhattan College and his MBA, Finance at New York University. He is a Certified Public Accountant and began his career in various audit capacities at Price Waterhouse and later at Touche Ross & Company.

Howard R. Udell. Deputy International General Counsel. Mr. Udell joined Purdue in 1980 as General Counsel and was appointed to his current position in 1994. Mr. Udell is a graduate of Hunter College of the City University of New York and received his LL.B. from New York University. He is also a partner in the New York law firm of Millard, Greene & Udell.

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D's Exhibit 523

**JOHN HANCOCK - BOND AND CORPORATE
FINANCE GROUP**

Report Date: June 25, 1999

Recommendation to B.I.C.: June 25, 1999

Report of Purchase to C of F: July 12, 1999

Private

Purchase Recommendation

GBSA	\$38.0 mm	CLDBLK	\$9.0 mm
REMBLK	\$ 4.0 mm	IQA	\$8.0 mm
GRP.INS	\$ 1.0 mm	UNIV	\$2.0 mm
PENN(SERS)	\$ 2.0 mm	BELL ATL	\$1.5 mm
SIG 3 CBO	\$ 4.5 mm		

Summary

**Elan Pharmaceutical Investments Ltd.
Elan Corporation, plc (Guarantor)
Dublin, Ireland**

We are recommending the purchase of \$70 million of a \$350 million issuance of 8.43% Senior Notes due 2002 of Elan Pharmaceutical Investments Ltd., a bankruptcy-remote, non-consolidated subsidiary of Elan Corporation, plc ("Elan" or the "Company"). The Notes will be guaranteed on a subordinated basis by Elan. Proceeds from the Notes will be used to fund the purchase of securities in a specified pool of investments currently owned by Elan.

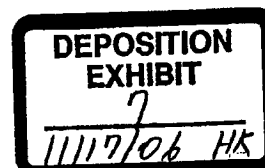
Elan is a specialty pharmaceutical company that is primarily focused on two business areas: (i) the discovery, development and marketing of therapeutic products and services for use in the areas of neurology, pain management and acute care; and (ii) the development and commercialization of products for pharmaceutical clients utilizing the Company's proprietary drug delivery systems. Elan was founded in 1969 as a drug delivery company selling its technology to large pharmaceutical companies for milestone and small royalty payments. During the late 1980s, Elan started to evolve into a development and manufacturing company, selling fully developed products to large pharmaceutical companies for greater royalty payments. With the acquisition of Athena Neurosciences in 1996 and several other companies in 1998, Elan has started the transition to becoming an integrated pharmaceutical company that has full product development and marketing capabilities. Elan became a public company in 1984 and has a market capitalization of approximately \$7.0 billion as of June 17, 1999.

Our recommendation is based on Elan's diversified source of revenues, strong product pipeline, and significant cashflow and liquidity.

Report Authors:

Anthony C. Urick, Second Vice President
Stephen J. Blewitt, Senior Investment Officer
Lisa C. Senatore, Administrative Assistant
(t:/industrl/sjb/elan-yo2.doc)

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JHH 012277



**JOHN HANCOCK – BOND AND CORPORATE
FINANCE GROUP**

Report Date: June 25, 1999

Recommendation to B.I.C.: June 25, 1999

Report of Purchase to C of F: July 12, 1999

Private

Purchase Recommendation

GBSA	\$38.0 mm	CLDBLK	\$9.0 mm
REMBLK	\$ 4.0 mm	1QA	\$8.0 mm
GRP.INS	\$ 1.0 mm	UNIV	\$2.0 mm
PENN(SERS)	\$ 2.0 mm	BELL ATL	\$1.5 mm
SIG 3 CBO	\$ 4.5 mm		

ISSUER:

Elan Pharmaceutical Investments Ltd., a bankruptcy-remote subsidiary of Elan Corporation

GUARANTOR:

Elan Corporation, plc

GUARANTEE:

The Guarantor will issue an unconditional and irrevocable subordinated guarantee with respect to interest and principal on the Notes and all other amounts payable under the Finance Documents.

ESCROW ACCOUNT:

The Issuer will fund an escrow account at closing with approximately two years of interest payments due under the Notes with part of the proceeds. The Escrow Account proceeds can only be invested in highly rated financial instruments with a maturity of less than six months.

ISSUE:

\$350 million 8.43% Senior Notes due 2002

RATINGS:

JH: Baa3; Moody's: Baa3; S&P: BBB-

BROKER:

Warburg Dillon Read, LLC

SIC CODE:

2830 – Drugs

OTHER

PURCHASERS:

John Hancock	\$ 70.0 million
State of Alabama	\$ 50.0 million
Prudential	\$ 25.0 million
Mass Mutual	\$ 20.0 million
Scudder Kemper	\$ 20.0 million
Principal	\$ 20.0 million
Others	<u>\$145.0 million</u>
	\$350.0 million

HANCOCK

PARTICIPANTS:

Listed above

USE OF PROCEEDS:

To fund the purchase of securities and equity ownership interests in a specified pool of investments owned by Elan and certain of its subsidiaries (the "Defined Portfolio") and to fund an Escrow Account.

STATE OF INC.:

Ireland (Guarantor)

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YIELD: 8.43%

INTEREST: Semi-annually

SPREAD: 275 basis points over the 6 1/4 % June 2002 treasury
286 basis points (OAS)

CIRCLE DATE: June 4, 1999

AVERAGE LIFE: 3 years

DURATION: 2.6 years

SINKING FUND: Bullet

TAKEDOWN DATE: Upon completion of documentation

CALL: Make-Whole at T+ 50 bps.

PUT: None

HANCOCK HOLDINGS: None

RELATED HOLDINGS: None

PUBLICLY TRADED SECURITIES: Foreign: Yes Domestic: Yes

YEAR 2000: Due diligence has been conducted on Year 2000 issues that could affect the Company.

FINANCIAL COVENANTS: Issuer.
The Issuer will not incur any additional third-party debt or make any distributions.

Guarantor.
Limitations on Additional Debt. Senior Debt to EBITDA must exceed 2.25x and Total Debt (excluding existing convertible debt) to Total Capital must not exceed 60%.

Maintenance of Net Worth. Net Worth must exceed \$750 million plus 35% of cumulative net income.

ANALYST: Stephen J. Blewitt, Senior Investment Officer

HOUSE COUNSEL: John T. Wallace, Esq.

SPECIAL COUNSEL: Milbank, Tweed Hadley & McCloy, LLP

Report Authors:
Anthony C. Urlick, Second Vice President
Stephen J. Blewitt, Senior Investment Officer
Lisa C. Senatore, Administrative Assistant
(t:/industr/sjb/eln-yo2.doc)

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Transaction Overview

Elan Corporation plc ("Elan" or the "Company") holds certain investments in companies consisting of common equity, debt, warrants, convertible debt and convertible preferred securities (collectively, the "Defined Portfolio"). The Defined Portfolio is primarily invested in small and mid-cap pharmaceutical companies, many of which have ongoing research and development collaborations with Elan. Elan is transferring the Defined Portfolio to Elan Pharmaceutical Investments Ltd. ("EPIL"), a bankruptcy-remote subsidiary of Elan, in exchange for approximately \$291 million. EPIL is issuing \$350,000,000.00 in Senior Notes to purchase the Defined Portfolio from Elan, to establish an escrow to pay approximately two years of interest payments, and to fund the operating and administrative costs of EPIL. Interest payments and operating expenses of EPIL that have not previously been reserved for will be paid by EPIL through the issuance of Subordinated Notes to Elan. The Notes will be fully and unconditionally guaranteed on a subordinated basis by Elan. The purpose of the transaction is to generate cash for other corporate purposes of Elan, and to achieve portfolio treatment for the investments – allowing gains and losses to offset each other.

Elan Corporation, plc

Elan is a specialty pharmaceutical company that is primarily focused on two business areas: (i) the discovery, development and marketing of therapeutic products and services for use in the areas of neurology, pain management and acute care; and (ii) the development and commercialization of products for pharmaceutical clients utilizing the Company's proprietary drug delivery systems. Elan was founded in 1969 as a drug delivery company selling its technology to large pharmaceutical companies for milestone and small royalty payments. During the late 1980s, Elan started to evolve into a development and manufacturing company, selling fully developed products to large pharmaceutical companies for greater royalty payments. With the acquisition of Athena Neurosciences in 1996 and several other companies in 1998, Elan has started the transition to becoming an integrated pharmaceutical company that has full product development and marketing capabilities. Elan became a public company in 1984 and has a market capitalization of approximately \$7.0 billion as of June 17, 1999.

Elan derives its revenue from three primary activities:

Product Sales: Elan markets a number of products that are sold directly through Elan's sales force. In addition, the Company manufactures and supplies products for certain drug delivery clients.

Royalties and License Fees: Elan works with a variety of pharmaceutical and biotechnology companies in the development of drug products. Utilizing its proprietary delivery systems and researching new delivery technologies, Elan's contribution is critical to the success of a pharmaceutical product. Elan receives milestone fees from its collaborative partners as Elan achieves certain levels of progress while developing the optimal delivery system. Upon commercialization of the drug, Elan receives a contracted percentage of the sales revenues in the form of royalties.

Development Fees: Elan performs R & D work for a number of pharmaceutical and biotechnology companies on a contract basis.

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Elan Corporation
Pro forma Capitalization

		Financing	Pro Forma
	03/31/99	Adjustments	3/31/99
Cash & Marketable Securities	\$929.8	\$231.0	\$1,160.8
Debt			
LYONS	\$870.8	-	\$870.8
4.75% Conv. Debt due 2004	325.0	-	325.0
Other	112.9	-	112.9
Total Debt	\$1,308.7	-	\$1,308.7
Shareholders' Equity	1,070.1	-	1,070.1
Total Capitalization	\$2,378.8	0.0	\$2,378.8

Investment Strengths

Diversified Source of Revenues

Elan has a diversified source of revenues and portfolio of products. In 1999, Elan is expected to generate approximately \$950 million in revenues. Of this amount, approximately \$420 million will be from direct sales of pharmaceutical products. One product (Naprelan) will account for about 20% of that amount and no other product will account for more than 12%. An additional \$140 million of revenues will come from manufacturing products for collaborative partners and \$250 million will come from royalties and fees from collaborative partners. The largest product in these categories, Cardizem CD, account for only about 10% of those revenues. Finally, Elan will generate approximately \$140 million in research and development revenues, two-thirds of which will come from Elan's two off-balance sheet financing vehicles.

Elan Pharmaceuticals markets the following principal products:

Product	Disease Category	Revenues (1999e)
Permax	Parkinson's	\$48
Zanaflex	Spasticity	\$44
Skelaxin	Musculoskeletal Pain	\$50
Naprelan	Arthritis	\$82
Mysoline	Anticonvulsant	\$16
Corlopan	Hypertension	\$15
Midrin	Migraine	\$14

The principal marketed products developed by EPT are:

Product	Disease Category	Marketed By	Gross Sales	Elan Rev. (1999e)
Cardizem CD	Hypertension	HMR	\$700	\$46
Verelan/PM	Hypertension	Schwarz	\$ 62	\$33
Theodur	Asthma	Mitsubishi	\$ 80	\$20
ProStep	Nicotine Patch	Perrigo	\$ 35	\$15

Strong Pipeline of Products

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Elan has a deep pipeline of mid- and late-stage products in development. Elan currently has 10 products in either Phase III clinical trials or at the NDA stage.

Elan's proprietary pipeline consists of the following near-term products:

Zonegran. Zonegran is an anti-epilepsy agent. The drug received an "approvable" letter from the FDA in 1998 and is expected to be launched in 1999. Zonegran is projected to generate approximately \$50 million in annual sales.

Neurobloc. Neurobloc is a highly diluted formulation of botulinum B strain and is used for the treatment of cervical dystonia (severe and painful abnormalities of posture, difficulty in flexing or relaxing muscles in the neck and shoulder region). Elan filed an NDA for Neurobloc in 1998. Projected sales for the drug are \$100 million per year.

Frovatriptan. Frovatriptan is a new drug from the "triptan" class that are used in the treatment of migraine headaches. The drug is being developed by Vanguard Medica plc and Elan has licensed exclusive marketing rights in the United States. Vanguard filed an NDA for Frovatriptan in 1999. Projected sales for the drug are approximately \$100 million per year.

Ziconotide. Ziconotide is a non-narcotic analgesic for severe pain. Elan has completed Phase III clinical trials and is expected to file an NDA in 1999. Projected sales for the drug are \$100 million per year.

This year, Elan's collaborative partners have launched two products using Elan's drug delivery technology: Prostep, a nicotine patch with expected peak gross sales of \$30 million and Verelan PM, a treatment for hypertension, with expected peak gross sales of \$80 million. In addition, the following products are in Elan's near-term pipeline:

Rapamune. Rapamune is an immunosuppressant therapy developed by AHP incorporating Elan's NanoSystems technology. AHP is currently marketing a liquid formulation of Rapamune and has filed an NDA of Elan's dry formulation. Projected peak gross sales are \$750 million which will generate approximately \$30 million in revenues for Elan.

Nifedipine CC. Nifedipine CC is a generic version of Adalat CC, a treatment for angina and hypertension. Nifedipine is currently in Phase III clinical trials and will be marketed by Schein Pharmaceuticals. Projected peak gross sales are \$75 million which will generate approximately \$30 million in revenues for Elan.

Significant Cash Flow and Liquidity

Elan is projected to generate approximately \$370 million in EBITDA in 1999. Adjusted Debt (including the Notes on Elan's balance sheet) to EBITDA is about 4.0x and Net Debt/EBITDA is only about 1.4x. Approximately \$100 million of Elan's aggregate debt will be due prior to the maturity of the Notes, the remainder is due in bullet maturities in 2004 and 2018 and may be converted into common stock. While the Company does have some near term obligations for its cash - including \$150 million due to collaborative partners and the option to repurchase its off-balance sheet financing vehicles for cash (\$270 million), Elan will have limited cash interest and tax payments for many years. In particular, Elan benefits from the current tax structure in Ireland which allows license and royalty income arising from R&D carried out in Ireland to be exempt from taxes. As further protection, Elan maintains a \$325 million committed bank credit facility.

Risks and Mitigating Factors

Managing Growth

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During the past three years, Elan has made five acquisitions, increasing its facilities from 2 to 21, and more than doubling employment. Elan may experience difficulty integrating cultures and information platforms and managing growth. Elan also has a short track record as a drug discovery, development and marketing organization and will experience product disappointments. The Company has attempted to mitigate these risks by using its equity for significant acquisitions and by integrating the senior management of acquired companies into Elan's corporate offices. We expect that any disruptions that Elan may experience will not impact existing sales and near term product approvals but may have a longer term impact – beyond the term of the Notes.

Loss of Revenues

As many developing pharmaceutical companies have done, Elan has utilized off-balance sheet financing vehicles to pay for clinical and product development, regulatory support, and commercialization of products. Elan has raised equity capital for two companies called Axogen and Neurolab that make payments to Elan for research and development. In 1998, Elan recognized approximately \$75 million in revenues from Axogen and Neurolab – offsetting a similar amount of R&D expenses. Elan has an option to purchase the equity in both companies and expects to do so in the fourth quarter of this year. As a result of those purchases, Elan will not recognize any further revenues from Axogen and Neurolab. Elan will adjust to the lost revenues through significantly increased product sales and by reducing R&D as a percentage of revenues (from 25% to an industry average of 15-20%)

Summary of Elan Off-Balance Sheet Financing Vehicles

<u>Vehicle Name</u>	<u>Year Started</u>	<u>Funding Amount</u>	<u>1999 Revenues</u>	<u>Repurchase Amount</u>	<u>Main Products Being Developed</u>
Axogen	1996	\$90 million	\$59 million	\$190 million	Zanaflex, Neurobloc
Neurolab	1998	\$50 million	\$16 million	\$ 80 million	Phase I AD expected

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D's Exhibit 524

JOHN HANCOCK MUTUAL LIFE INSURANCE COMPANY

Bond and Corporate Finance Group

Report Date: July 1, 1999

Recommendation to B.I.C.: July 1, 1999

Report of Purchase to COF: July 12, 1999

Private

Purchase Recommendation

Mezz Fund	\$5.00 million	GBSURP	\$6.00 million
CLDBLK	\$1.40 million	REMBLK	\$0.75 million
IQA	\$1.25 million	GRP.INS	\$0.10 million
UNIVRSL	\$0.30 million	MULTIMGR (S/A 12)	\$0.20 mm

Summary

Celgene Corporation

Warren, NJ

We are recommending the purchase of an additional \$15 million of 9.00% Convertible Senior Notes due 2004 of Celgene Corporation ("Celgene" or the "Company"). The Notes are convertible into 789,450 shares of common stock of the Company. In January 1999, John Hancock purchased a similar issue from the Company but with a slightly lower conversion price (\$18/share versus \$19/share). Proceeds from the Notes will be used to fund sales and marketing, research and development and for working capital purposes. Pro forma for the issuance of the Notes, Celgene will have \$29 million in cash.

Celgene is a publicly-listed pharmaceutical company engaged in the development and commercialization of human pharmaceuticals and agrochemicals. Celgene was originally organized in 1980 as a unit of Celanese Corporation to apply biotechnology to the production of fine and specialty chemicals. Following the 1986 merger of Celanese and American Hoechst Corporation, Celgene was spun out as a separate company. In 1987, Celgene completed its initial public offering and has raised approximately \$99 million in equity since 1987.

In July 1998, Celgene received approval from the US Food & Drug Administration to market and sell Thalomid™ (thalidomide) for the treatment of certain inflammatory complications of leprosy. In the late 1950s and early 1960s, thalidomide, when used outside of the US as a sedative for morning sickness, resulted in severe birth defects in over 10,000 children. Despite these known side effects, thalidomide has been dispensed by the World Health Organization and the US FDA for the treatment of leprosy and a variety of other immunological diseases for over twenty years. The significance of Celgene receiving approval to sell thalidomide does not relate to leprosy, however. In many clinical trials that have been completed, thalidomide is shown to be effective in treating a number of diseases, such as AIDS, cancer, macular degeneration and Crohn's disease. Celgene has patent protection for the use of thalidomide in cancer and in inflammatory diseases.

Since we completed our initial funding in January 1999, Celgene has accomplished several significant milestones:

- Sales of Thalomid increased from \$2.2 million in the fourth quarter of 1998 to \$3.5 million in the first quarter of 1999 (59% increase) and are expected to be approximately \$5.5 million in the quarter ended June 30, 1999 (59% increase). These increases have come without the benefit of any peer reviewed journal articles that will allow Celgene's sales force to market the drug for indications other than leprosy. The Company is reasonably certain that several peer reviewed articles will appear later this year.
- Celgene received a U.S. patent for its chirally pure version of Ritalin for the treatment of attention deficit disorder. This patent eliminates the potential for competition if the Company is successful in receiving FDA approval for its drug.

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JHI 012251

- Two significant abstracts demonstrating the effectiveness of Thalidomide were presented at the American Society of Clinical Oncology ("ASCO") in May. Dr. Glass of NYU presented data on thalidomide used in combination with carboplatin in treating patients with recurrent glioblastoma. The study showed that 73% of patients had either stable disease or tumor regression. Dr. Watanabe of the University of Alberta presented data on the improvement of quality of life measures in terminal cancer patients using thalidomide. The study indicated that all quality of life measures (e.g., insomnia, nausea, etc.) improved by 30%.

- The Company hired a new Chief Financial Officer, Robert J. Hugin, to succeed the Celgene's former CFO who retired last year. Mr. Hugin was formerly a member of J.P. Morgan's global management teams for both the Fixed Income and Emerging Markets divisions.

Our recommendation is based upon the value of Thalomid as an approved drug that potential uses in a number of substantial disease categories, Celgene's additional products in development, and the potential to earn an attractive 14-24% IRR during the next 3- 5 years.

Report Authors:

Sandeep D. Alva, Second Vice President
Anthony C. Urlick, Second Vice President
Stephen J. Blewitt, Senior Investment Officer
D. Dana Donovan, Senior Investment Officer
Kevin Crosby, Junior Analyst
(t:/industry/sjb/celg-yo2.doc)

JOHN HANCOCK MUTUAL LIFE INSURANCE COMPANY

Bond and Corporate Finance Group

Report Date: July 1, 1999

Recommendation to B.I.C.: July 1, 1999

Report of Purchase to COF: July 12, 1999

Private**Purchase Recommendation**

Mezz Fund	\$5.00 million	GBSURP	\$6.00 million
CLDBLK	\$1.40 million	REMBLK	\$0.75 million
IQA	\$1.25 million	GRP JNS	\$0.10 million
UNIVRSL	\$0.30 million	MULTIMGR (S/A 12)	\$0.20 mm

ISSUER:

Celgene Corporation

ISSUE:

\$15 million Convertible Senior Notes due 2004

RATINGS:

JH: B2; Moody's: n/r; S&P: n/r;

BROKER:

Direct

SIC CODE:

2830 -- Drugs

HANCOCK**PARTICIPANTS:**

Listed above

USE OF PROCEEDS:

To fund sales and marketing, research and development and for working capital purposes

STATE OF INC.:

Delaware

YIELD:

9.00%

INTEREST:

Semi-annual

SPREAD:

Approximately 326 basis points over the 5-year treasury yield (OAS)

CONVERSION:

After the first anniversary of closing and prior to maturity, the holders may convert the Notes into 789,475 shares of common stock of the Company.

CIRCLE DATE:

June 17, 1999

AVERAGE LIFE:

5 years (estimated)

DURATION:

4 years (estimated)

SINKING FUND:

Bullet

TAKEDOWN DATE:

Upon completion of documentation

CALL:

After the second anniversary at a price of 103% if the price of the Company's common stock exceeds \$40.50. Any time after the third anniversary at a price of 103%.

PUT:

Change of Control (at Par)

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HANCOCK HOLDINGS: None

RELATED HOLDINGS: None

PUBLICLY TRADED SECURITIES: Foreign: No Domestic: Yes

YEAR 2000: Due diligence has been conducted on Year 2000 issues that could affect the Company.

FINANCIAL COVENANTS: Consolidation, Merger, Sale of Assets

PURCHASER COVENANTS: Purchaser will not undertake any form of short sale, derivative or other transaction which has the effect of taking a "short position" in the common stock of the Company while the Purchaser holds the Notes and the Company does not have the right to call the Notes.

ANALYST: Stephen J. Blewitt, Senior Investment Officer
D. Dana Donovan, Senior Investment Officer

HOUSE COUNSEL: Christine Miller

SPECIAL COUNSEL: Choate, Hall & Stewart

Report Authors:
Sandeep D. Alva, Second Vice President
Anthony C. Urick, Second Vice President
Stephen J. Blewitt, Senior Investment Officer
D. Dana Donovan, Senior Investment Officer
Kevin Crosby, Junior Analyst
(t:/industri/sjb/yellows/celg-yo2.doc)

Celgene Corporation

Celgene Corporation ("Celgene" or the "Company") is a publicly-listed pharmaceutical company engaged in the development and commercialization of human pharmaceuticals and agrochemicals. Celgene's work is focused in two broad areas: (a) small molecule pharmaceuticals and (b) chiral chemistry synthesis in human pharmaceuticals and agrochemicals. Celgene was originally organized in 1980 as a unit of Celanese Corporation to apply biotechnology to the production of fine and specialty chemicals. Following the 1986 merger of Celanese and American Hoechst Corporation, Celgene was spun out as a separate company. In 1987, Celgene completed its initial public offering. The Company has raised approximately \$99 million in net proceeds from three public and three private offerings, including its IPO.

In July 1998, Celgene received approval from the US Food & Drug Administration to market and sell Thalomid™ (thalidomide) for the treatment of certain inflammatory complications of leprosy. In addition to leprosy, however, there is the potential for significant use of Thalomid in "off-label" indications, such as AIDs, cancer, macular degeneration and Crohn's disease. Celgene has patent protection for the use of thalidomide in cancer and in inflammatory diseases.

Chiral chemistry refers to the property of many chemical compounds to exist in two or more different forms that are mirror images of each other. While one form may have beneficial effects, the other may be inactive or produce undesirable effects. Chirally pure compounds contain only one of these conformations, and thus may have attributes superior to those that have both. Celgene's lead compound is a chirally pure version of Ritalin, a treatment for Attention Deficit Hyperactivity Disorder. Celgene is currently initiating phase III trials for its version of Ritalin.

Celgene is also applying its chiral technology to the production of chirally pure agrochemicals and is currently developing a chirally pure version of a currently marketed crop protection agent under an R&D agreement with BASF.

Thalidomide - History pre-1990s

Thalidomide was originally developed and marketed overseas as a sedative in 1957 and was eventually prescribed for morning sickness to pregnant women. Unfortunately children born to the mothers who took thalidomide had serious birth defects. In the US, however, the drug was never approved due to concern regarding peripheral neuropathy (damage to the nerves of the extremities). In the 1960s, a physician treating leprosy patients in Israel for a painful condition known as erythema nodosum leprosum ("ENL") prescribed thalidomide as a sedative. The results were surprising as the drug alleviated the symptoms of this painful condition. From that point onward, thalidomide has been the therapy of choice (including designation by the World Health Organization) for ENL. In the US, the drug has been distributed under the auspices of the Public Health Service (the parent organization of the FDA) to many thousands of patients for ENL and later for a variety of other immunological diseases.

Thalidomide - Current

In 1991, Dr. Gilla Kaplan of The Rockefeller University discovered that thalidomide inhibits the overproduction of a protein in the body called Tumor Necrosis Factor Alpha ("TNF α "). TNF α is a chemical messenger essential to the mounting of an inflammatory response, which is the normal immune system reaction to infection or injury, and rids the body of foreign agents and promotes tissue repair. However, chronic or excessive production of TNF α has been implicated in a number of acute and chronic inflammatory diseases such as cachexia, Crohn's disease, and rheumatoid arthritis. A patent on the application of the use of thalidomide as a TNF α -inhibitor was received in 1995 and exclusively licensed by Celgene.

In 1994, Drs. Judah Folkman and Robert D'Amato of Children's Hospital/Harvard University discovered that thalidomide also inhibited the formation of new blood vessels, a process called angiogenesis. Angiogenesis primarily occurs in the first three months of embryonic development when cytokines and growth factors are activated to stimulate blood vessel growth. Once the general network of blood vessels is complete, these stimulators are inhibited and blood vessels generally only grow longer and larger. Patents for the use of thalidomide for anti-angiogenic diseases including cancer were issued in 1995 and licensed to EntreMed, Inc., a publicly-listed biotechnology company. EntreMed subsequently initiated a broad relationship with the National Cancer Institute to evaluate thalidomide clinically in a large variety of cancers.

During the 1990s, a substantial black market for thalidomide emerged among AIDS patients, principally for cachexia (the involuntary loss of more than 10% of body weight) and certain ulcers. Based on questionnaires of AIDS patients, an estimated 25% of AIDS patients had used thalidomide. Because of widespread use of thalidomide and the potential for birth defects, the US FDA encouraged Celgene and EntreMed to seek marketing approval for the drug. Celgene sought and received approval for thalidomide for ENL in July 1998.

EntreMed Transaction

On December 10, 1998, Celgene and EntreMed, Inc. announced an agreement under which Celgene acquired exclusive worldwide rights to EntreMed's patents and technology for thalidomide for the treatment of cancer and will assume primary responsibility for the on-going relationship with the National Cancer Institute (NCI) for clinical trials of thalidomide.

Strengths**Thalomid is an approved product with many potential indications.**

Thalomid™ has been approved by the US FDA for use by ENL patients. Celgene is also seeking approval from the US FDA for a number of AIDS related diseases and cancers. Because the toxicity of thalidomide is well-known, Celgene has been able to start its clinical trials (several in conjunction with the National Cancer Institute) at a Phase II or Phase III stage (to determine proper dosing and to develop statistically significant results of efficacy), as described below.

Product	Indication/Intended Use	Status
Thalomid	ENL in leprosy	On Market
	AIDS - Cachexia	Phase III completed
	AIDS - RAS	Phase III completed
	Multiple Myeloma	Phase II completed
	Glioblastoma	Phase II completed
	Breast cancer/Prostate cancer/Kaposi's sarcoma	Phase II (Entemed/NCI)
	Crohn's disease	Phase II commenced

Initial results are promising:

AIDs Cachexia : 104 patients studied. At 100 mg/day dose for eight weeks, patients experienced an average weight gain of almost five pounds compared to a loss of approximately one-half pound for the placebo group.

AIDs RAS : 57 patients studied. Ulcers in 55% of the patients treated for four-weeks healed completely compared to 7% of the placebo patients.

Cancer Cachexia : Phase II trial underway.

Multiple Myeloma : Arkansas Cancer Research Center study of 89 patients. Ten patients showed at least a 75% reduction in tumors; eight showed between 50 -75% reduction; and twelve showed between 20 - 50% reduction. The median duration of response was 25 days with some patients responding for over 180 days.

Glioblastoma : Dr. Howard Fine of the Dana-Farber Cancer Institute has conducted a thalidomide study (sponsored by the National Cancer Institute) in 50 patients with high-grade glioblastomas. The trial demonstrated partial response in 40-50% of the patients.

Drs. Gruber and Glass at NYU conducted a study with 60% response rate in 98 patients.

Prostate cancer: 18 patients treated. Nine patients experienced a decline in their PSA level by at least 37% and two showed disease stabilization.

Clinical Trials Primer

Preclinical – laboratory evaluation of product chemistry and animal studies to assess potential safety and efficacy of products and their formulations.

Phase I – small number of healthy individuals to determine early safety profile and the pattern of drug distribution and metabolism. (Probability of Phase I compounds ultimately receiving FDA approval = 20%)

Phase II – small groups of patients to determine preliminary efficacy, dosing regimens, and expanded evidence of safety. (Probability of Phase II compounds ultimately receiving FDA approval = 50%)

Phase III – larger scale, multi-center, well-controlled, comparative trials with patients in order to show statistical proof of efficacy and safety. (Probability of Phase III compounds ultimately receiving FDA approval = 75%)

Celgene has several other products in development.

Using its experience with Thalomid as a TNF α -inhibitor, Celgene is developing new chemical entities ("NCEs") to treat chronic inflammatory diseases such as Crohn's disease and rheumatoid arthritis. The Company's first NCE, which it is calling SelCID™, has completed Phase I trials in the UK for the treatment of Crohn's disease. SelCID is many years away from receiving approval (if ever) in the US, but the market for potent TNF α -inhibitors is large.

Celgene's chiral chemistry program has produced a chirally pure version of d1-methylphenidate (currently marketed under the trade name Ritalin). Celgene has a patent on its version of Ritalin and recently completed a Phase II trial that demonstrated efficacy versus placebo and longer duration of action relative to the original version of Ritalin. Ritalin is a generic product with a \$400 million market and is currently controlled by three companies. If Celgene is successful in its Phase III trials, the Company has the potential to take some market share from the existing generic makers.

The Company's chiral chemistry program also includes its agrochemicals subsidiary, Celgro. Celgro has signed several agreements to develop chirally pure versions of currently marketed crop protection for third-parties.

Product	Indication/Intended Use	Status
IMMUNOTHERAPEUTIC		
IMiDs	Inflammatory diseases; oncology	Preclinical development
SelCIDs	Inflammatory diseases; oncology	IND for Crohn's disease; Phase I completed
CHIRAL PLATFORM		
d-MPH	Attention Deficit Hyperactivity Disorder	Phase III commenced
mexiletine	Neuropathic pain	Preclinical development
Chiral biocatalytic technology	Reduced manufacturing costs and reduced environmental impact	Two agreements signed in 1998

Expected IRR

Celgene's current market capitalization is approximately \$270 million (\$16/share). We expect the Company's market capital to increase to approximately \$530 million (\$29/share) within three to five years. At that level, the Notes will generate an IRR of between 14.6% (5 years) and 24.2% (3 years).

Cash flows (\$ 000s)	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	
Three Year Scenario	(15,000)	1,350	1,350	23,850			IRR = 24.2%
Five Year Scenario	(15,000)	1,350	1,350	1,350	0	22,500	IRR = 14.6%

Our estimate of future market capitalization is based on the Company achieving over \$50 million in product revenues within the next three to five years and companies similar to Celgene having valuations of approximately 10x revenues.

Company	Market Capitalization	Revenues	Multiple of Revenues
Sequus	642	61	10.5x
Enzon	445	14	31.4
Liposome Company	364	70	5.2
TheraTech	288	46	6.2
Ligand	494	39	12.6
Biomatrix	501	40	12.5
Pathogenesis	793	42	18.8
Vertex	684	44	15.5
		ADJ. AVG.=	11.6x

Our estimate of \$50 million in revenues is based on sales of Thalomid for AIDS-related diseases, cancer and Crohn's disease. Although Celgene currently only has approval to sell Thalomid for ENL, physicians are not limited to prescribing drugs for specific approved indications. [For example, over 50% of all cancer drug usage is "off-label" and the current "gold standard" for Crohn's disease, methotrexate, has never been approved for this indication. In fields of medicine, such as oncology, where patients often fail "first-line" therapy or become resistant to therapy, physicians have wide discretion to prescribe drugs that have been approved by the US FDA for some indication and have some clinical data showing efficacy.] We expect the Company to benefit from scientific publications in oncology and cachexia in 1999 and an approved indication in oncology in 2000 or 2001.

Specifically, we expect Thalomid to be used for (a) approximately five percent of AIDS patients, generating approximately \$10 million in revenues, (b) approximately one percent of cancer patients (for cachexia and tumor suppression), generating approximately \$30 million in revenues, and (c) a variety of other indications (particularly Crohn's disease for which there is only one TNF α -inhibitor currently approved), generating approximately \$10 million in revenues.

With \$30 million of cancer-related sales, Thalomid would become one of approximately 30 - 40 drugs for the treatment of cancer with that level of revenues. The prospects for growth are exceptional, as the oncology drug market is expected to grow by nearly 10% per year for the next decade. This growth will be driven by (1) the aging population, (2) an increase in the utilization of cancer drugs due to increased effectiveness and decreased toxicity, and (3) a rise in the amount of money spent per patient.

Celgene Corporation, Inc.
John Hancock's Projected Financial Information

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	1998	1999	2000	2001	2002	2003
Revenue	4,491	35,000	42,500	52,000	62,000	72,000
Cost of Goods	809	3,200	4,250	5,200	6,200	7,200
SG&A	15,207	21,180	22,200	23,100	24,300	25,800
R&D	20,469	24,116	20,000	20,000	20,000	20,000
Net Oper Inc.	(31,493)	(13,496)	(3,950)	3,700	11,500	18,000

Risks and Mitigating Factors

Burn Rate

Celgene has sustained losses in each year since its incorporation, including a net loss of \$25 million in 1998. In the last quarter, Celgene generated cash losses of approximately \$6 million. With the increase in sales of Thalomid, however, Celgene's "burn" will diminish during the remainder of 1999, and we conservatively expect the Company to achieve positive monthly cash flow during 2000. Pro forma for the issuance of the Notes, Celgene will have \$29 million in cash. Additionally, Celgene has the opportunity to raise capital by selling Tax Loss Carryforwards and by selling an interest in its Celgro subsidiary. Combined, these sources can generate an \$17 million in cash, if necessary. We believe that Celgene has sufficient cash and potential sources of cash to take the Company to the stage of sufficient product sales and profitability.

Potential failure of clinical trials/market acceptance.

Our revenue estimates for the Company are initially based on market acceptance of Thalomid for indications (such as cancer cachexia, multiple myeloma, etc.) that Celgene has not received approval for and subsequently assume that such approvals are received. We believe that oncologists will be willing to try Thalomid based on scientific publications that demonstrate efficacy in clinical trials. The market for Thalomid will grow as the Company receives approval from the US FDA for additional indications. If, however, ongoing trials with Thalomid fail to demonstrate efficacy, we believe that market acceptance for Thalomid will be reduced.

Since Thalomid has successfully completed Phase III trials for AIDS cachexia, we believe that there is a high probability (90%) of receiving US FDA approval for this indication. With an approval for cachexia, Celgene should be able to develop a strong base of revenues in the AIDS and cancer markets. As an approved drug (with known toxicity and methods of action) with a wide range of potential indications, then, the risk of an unsuccessful trial damaging the potential for all indications for Thalomid is unlikely.

Volatility of Stock Price and Probability of Default.

Pro forma for the issuance of the Notes, Celgene's debt-market capitalization will be approximately 10%. Stock prices for small drug companies, however, are highly volatile. Our analysis of twenty-three biotechnology companies that had an US FDA approved product as of November 1995 indicate a 100-day volatility of approximately 40% during the past three years.

<u>Theoretical</u>	<u>Three-year</u>	<u>Actual</u>
<u>Count</u>	<u>% Change</u>	<u>Count</u>

0.0	1966	0.0
.5	954	1.0
2.0	438	4.0
3.0	174	4.0
6.0	40	9.0
6.0	(29)	3.0
3.0	(64)	0.0
2.0	(81)	1.0
.5	(91)	1.0
0.0	(95)	0.0
23.0		23.0

Using forty-percent 100-day volatility, in five years, when the Notes are due, we expect the following range of equity values for Celgene (based on an initial value of \$200 million):

<u>Equity Value</u> <u>(\$ millions)</u>	<u>%</u>
>4,132	1.8
2,108	4.2
1,075	9.2
548	15.3
280	19.6
142	19.6
72	15.3
37	9.2
19	4.2
<10	1.8

We believe that Celgene must have a market capitalization of at least \$70 million to have sufficient financial flexibility to repay the \$30 million Notes; as a result, we assume that if Celgene has less than a \$70 million market capitalization, the Company will default on the Notes. Based on our theoretical model, the probability of default is 15.2%, or approximately 3% per year, which we believe equates to a 'single-B' credit risk.

MANAGEMENT AND DIRECTORS

John W. Jackson (53). Chairman and CEO since 1996. Mr. Jackson was founder and president Gemini Medical, a consulting firm, from 1991 to 1996. Previously, Mr. Jackson was President of the Medical Device Division of American Cyanamid Company from 1986 to 1991, and held other senior management positions there from 1978 to 1986.

Sol J. Barer, Ph.D. (50). President, COO and Director. Dr. Barer started with Celgene in 1987 as its Vice President - Technology. He was promoted to Senior Vice President - Science and Technology in 1990, became President in 1993 and COO in 1994. Dr. Barer received his Ph.D. in organic and physical chemistry from Rutgers University.

Joseph Day (57). Senior Vice President - Business Development since 1998. Mr. Day was previously employed by Cephalon as the head of business development. Prior to Cephalon, Mr. Day was Vice President, Business Development in the Wyeth-Ayerst division of American Home Products. Mr. Day has an MBA in marketing and finance from Rutgers University and a BS in pharmacy from Fordham University.

Robert J. Hugin (45). Chief Financial Officer and Senior Vice President. Mr. Hugin was recently appointed CFO of the Company. Prior to joining Celgene, Mr. Hugin spent fourteen years at J.P. Morgan & Co. where he held a number of senior client and market related positions. Mr. Hugin was also a member of J.P. Morgan's global management teams for both the Fixed Income and Emerging Markets divisions. Mr. Hugin earned his AB from Princeton University and has an MBA from the Darden Graduate School of Business at the University of Virginia.

Jack L. Bowman (65). Director since 1998. Former Chairman of Johnson & Johnson.

Frank T. Cary (76). Director since 1987. Former Chairman of IBM.

Arthur Hull Hayes, Jr., M.D. (64). Director since 1995. Former Commissioner of the US FDA.

Gilla Kaplan, Ph.D. (50). Director since 1998. Associate Professor at The Rockefeller University.

Richard C.E. Morgan (53). Director since 1987. Managing General Partner of Wolfensohn Partners.

Walter L. Robb (69). Director since 1992. Former Senior Vice President for R&D of General Electric.

Lee J. Schroeder (68). Director since 1995. Former Executive Vice President of Sandoz, Inc.

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Blewitt 11/17/2006 Deposition Exhibit 9

D's Exhibit 525

John Hancock - Bond and Corporate Finance Group

Report of Purchase to B.I.C.: August 6, 1999

Report of Purchase to C.O.F.: September 13, 1999

Report Date: August 20, 1999

144A

Report of Purchase

GBSA, IQA, REMAINDER BLOCK, PEN/PAR, SIG-1A, GRP LTC, LOLA, UNIV.LI, IPLI

ISSUER: LILLY DEL MAR, a special purpose British Virgin Islands corporation and wholly-owned subsidiary of Eli Lilly and Company

ISSUE: 525,000,000

ASSET CATEGORY: Bonds Corporate Private

CITY, STATE: Indianapolis, IN

COUPON: 6.57%

MATURITY: 08/05/2029

RATINGS: Eli Lilly & Co. Moody's: Aa3 S&P: AA JH: AA2
Transaction: Moody's: A1 S&P: A+ JH: A1

BROKER: Goldman Sachs

SIC CODE: 2834-Pharmaceutical preparations

Hancock Participants	Account Code	Par Amount	Price	Principal	Accrued Interest	Trade Date	Settle Date
GBSA	GBSA	54,000,000.00	100.00	54,000,000.00	0.00	07/29/1999	08/05/1999
IQA	General Account	14,000,000.00	100.00	14,000,000.00	0.00	07/29/1999	08/05/1999
REMAINDER BLOCK	General Account	12,000,000.00	100.00	12,000,000.00	0.00	07/29/1999	08/05/1999
PEN/PAR	General Account	6,000,000.00	100.00	6,000,000.00	0.00	07/29/1999	08/05/1999
SIG-1A	Signature 1A	5,000,000.00	100.00	5,000,000.00	0.00	07/29/1999	08/05/1999
GRP LTC	General Account	3,000,000.00	100.00	3,000,000.00	0.00	07/29/1999	08/05/1999
LOLA	General Account	3,000,000.00	100.00	3,000,000.00	0.00	07/29/1999	08/05/1999
UNIV.LI	JHVL	2,000,000.00	100.00	2,000,000.00	0.00	07/29/1999	08/05/1999
IPLI	IPLI	1,000,000.00	100.00	1,000,000.00	0.00	07/29/1999	08/05/1999
		100,000,000.00		100,000,000.00	0.00		

YIELD: Yield To Cash Flow: 6.52% Bond Equivalent Yield: 6.570%

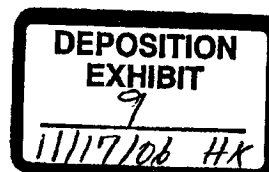
TRADE SPREAD: +120 3M LIBOR

OAS SPREAD: +209 JH Curve

LENGTH: AVERAGE LIFE: 5.00 Years MODIFIED: 0.25 Years

Report Authors:

Anthony C. Urlick, Second Vice President
 Stephen J. Blewitt, Senior Investment Officer
 Lorn C. Davis, Senior Investment Analyst
 Kathleen E. McDonough, Investment Officer
 (tindstr/sjb/lilly-yo1.doc)

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INTEREST: 11/05/1999 Quarterly

SINKING FUND: Bullet at Maturity

CALL: Non-call for five years

PUT: None

YEAR 2000: The Company's recent filings or disclosures have been reviewed in connection with Year 2000 issues.

PUBLICLY TRADED
SECURITIES: Foreign: Yes Domestic: Yes

HANCOCK
HOLDINGS: None

RELATED
HOLDINGS: None

ANALYST: Stephen J. Blewitt, Senior Investment Officer

ANALYST: Lora C. Davis, Senior Investment Analyst

Report Authors:

Anthony C. Urlick, Second Vice President
Stephen J. Blewitt, Senior Investment Officer
Lora C. Davis, Senior Investment Analyst
Kathleen E. McDonough, Investment Officer
(rindstr/sjb/lilly-yoi.doc)

Transaction Overview

Eli Lilly and Company ("Lilly" or the "Company") has formed Lilly del Mar, Inc. (the "Issuer"), a British Virgin Islands corporation, to serve as a tax-efficient, international financing vehicle for Lilly and its affiliates. Lilly del Mar has raised \$825 million through the issuance of two tranches of Capital Securities - \$525 million of Floating Rate Capital Securities and \$300 million of Resettable Coupon Capital Securities due 2029. At closing, the Capital Securities will be the sole outstanding debt obligations of Lilly del Mar and the Issuer will be prohibited from issuing any debt that ranks senior to the Capital Securities. Due to the subordinated structure of the Capital Securities, Lilly receives equity treatment from the rating agencies for this \$825 million financing.

In general, Lilly del Mar will be permitted to invest the financing proceeds in Eligible Lilly Subordinated Obligations - subordinated debt directly advanced to Lilly and/or amounts advanced to Lilly affiliates which are irrevocably and unconditionally guaranteed on a subordinated basis by the Company. The Eligible Lilly Subordinated Obligations will have payment terms substantially equivalent to, and will serve as collateral for, the Capital Securities. Lilly del Mar will be subject to a Minimum Liquid Assets Test that requires the Issuer to hold Eligible Lilly Subordinated Obligations in an amount at least equal to the aggregate principal amount of Capital Securities.

The Issuer has a single option to provide certain additional collateral in amount to raise its ratio of net equity to Capital Securities ("Capital Securities Ratio") to 1.0x. If that contribution of additional collateral results in at least a one notch upgrade by S&P and Moody's (a "Coupon Adjustment Event"), the Issuer will receive a 10-basis point coupon reduction on the Floating Rate tranche and a 12.5-basis point coupon reduction on the Resettable Coupon tranche. The additional contributed collateral must meet the following minimum criteria:

- 1) Money Market Instruments including commercial paper or repos rated A-1/P-1 or better, bank deposits of institutions rated A3/A- or better, municipal obligations rated V-1 (Fitch) or better
- 2) U.S. government and agency obligations
- 3) Dollar-denominated corporate, bank, supranational agency, and foreign sovereign debt rated A3/A- or better with a stated maturity within ten years of purchase
- 4) Dollar-denominated mortgage-backed and asset-backed securities rated A3/A- or better with a stated maturity within ten years of purchase
- 5) Eligible Lilly Subordinated Obligations or debt of a Lilly affiliate secured by any type of collateral meeting the aforementioned minimum criteria.

Upon a Coupon Adjustment Event, the Issuer must at all times continue to satisfy the Minimum Liquid Assets Test, maintain a Capital Securities Ratio of 1x, and hold assets complying with the minimum collateral criteria.

The Issuer may defer interest payments on the Capital Securities for up to five years as long as no Event of Default has occurred and is continuing. There is no limit on the number of deferral periods exercised by the Issuer as long as all accrued interest is paid at the end of each deferral period. During any interest deferral period, Lilly will be prohibited from paying dividends (\$878 million in 1998) and repurchasing equity securities (\$2 billion in 1998).

Eli Lilly and Company

Eli Lilly is one of the world's largest pharmaceutical companies, with a strong product portfolio including Prozac, the leading antidepressant medication. Lilly maintains manufacturing/distribution facilities in 28 countries, and the Company's products are sold in approximately 160 countries. For the fiscal year ended 12/31/98, Lilly generated revenues of \$9.2 billion and EBIT of \$2.7 billion. The market value of Lilly's equity was \$70.8 billion as of 8/17/99.

Pro-Forma Capitalization

(\$ Millions)	3/31/99	Adjustments	Pro-Forma 3/31/99
Short-Term Debt	357	-	357
Long-Term Debt	1,982	-	1,982
Capital Securities Offered Hereby	-	825	825
Total Debt	2,339	825	3,164
Stockholders Equity	4,860	-	4,860
Debt/Total Capitalization			39.4%
Debt/Market Capitalization			4.2%

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Lilly has built strong franchises in central nervous system ("CNS") and diabetes pharmaceutical product categories, which generated sales of \$4.5 billion and \$1.5 billion, respectively in fiscal year 1998. Anti-infective products represent another major business segment for Lilly, generating \$1.16 billion in 1998. Lilly's key CNS and diabetes products include:

- *Prozac*®, the world's leading anti-depressant product
- *Zyprexa*®, the world's leading anti-psychotic product
- *Humulin*®, the world's leading insulin medication

To complement its core CNS and diabetes franchise, the Company possesses a small but growing position in the cardiovascular (1998 Revenues - \$537 million), oncology (1998 Revenues - \$339 million), and osteoporosis (1998 Revenues - \$144 million) segments. Key products include:

- *ReoPro*®, for the treatment of patients undergoing angioplasty, atherectomy or stent placement
- *Gemzar*®, for the treatment of advanced or metastatic pancreatic cancer and, in combination with other agents, for the treatment of non-small-cell lung cancer
- *Evista*®, for the prevention of osteoporosis in post-menopausal women

Recent Developments

Sale of PCS Health Care Management Service

In 1997, Lilly took a \$2.3 billion charge to write-down the value of its PCS health care management business to \$1.5 billion. On 1/22/99, the Company sold the PCS business to Rite Aid Corporation for \$1.6 billion in cash.

INVESTMENT RATIONALE

The holders of the Capital Securities are assuming subordinated credit risk of Lilly. Debt service on intercompany loans from Lilly and its affiliates will be the ultimate source of interest and principal payments on the Capital Securities. In an Event of Default, the holders of the Capital Securities will possess a subordinated claim against Eli Lilly through Lilly del Mar. This claim will be net of any proceeds obtained from the liquidation of Lilly del Mar's other collateral.

Our recommendation is based on Lilly's strong competitive position in the pharmaceuticals industry, significant free cash flow generation, diversified product portfolio, and conservative leverage position.

Investment Strengths

Strong Competitive Position

Lilly is the eighth largest pharmaceutical company in the world with \$9.2 billion in fiscal year 1998 sales. The Company maintains leading positions in the CNS and diabetes product segments. As the table below demonstrates, Lilly controlled 24% of the \$19.6 billion CNS product segment and 28% of the \$5.8 billion diabetes product segment. To augment its leading position in CNS and diabetes products, the Company has launched new products to grow its position in cardiovascular, oncology, and osteoporosis markets.

1998 CNS Market Share	
Lilly	24%
Glaxo Wellcome	11%
SmithKline Beecham	11%
Pfizer	11%
J&J	8%
Total Market (Millions)	19,585

1998 Diabetes Market Share	
Novo Nordisk	21%
Lilly	20%
Bristol-Myers Squibb	15%
Warner Lambert	13%
Aventis	10%
Total Market (Millions)	5,808

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Significant Cash Flow Generation

Lilly's highly profitable portfolio of products consistently generates significant amounts of cash flow. As the table below summarizes, the Company has generated \$4.8 billion in free cash flow (Cash generated from operations less research and development expenses, interest costs, capital expenditures and dividends) over the past five years. As of 6/30/99, the Company held \$2.1 billion in cash on its balance sheet.

(\$ Millions)	12/31/94	12/31/95	12/31/96	12/31/97	12/31/98
Cash Generated from Operations	2,475	3,153	3,469	4,003	4,550
Research & Development Expenses	839	1,042	1,180	1,370	1,739
Interest Expense	104	286	288	233	181
CAPX & Other Investments, net	282	473	330	377	174
Dividends	723	747	753	818	878
Free Cash Flow	527	605	908	1,205	1,578

Lilly possesses ample financial flexibility to support the incremental debt from the Capital Securities issue and continue the significant investments in research and development that will lead to the next generation of leading pharmaceutical products to sustain the Company's strong competitive position.

Risks and Mitigating Factors**Patent Expiration of Key Products**

For fiscal year 1998, Prozac accounted for \$2.8 billion, or 30%, of the Company's revenues. The critical patent on Prozac expires in 2004, unleashing significant generic competition that will significantly reduce Prozac sales. Over time, Prozac could lose more than 50% of its market share and face a 60% reduction in price. Despite a significant reduction in Prozac sales, Lilly should still maintain adequate financial flexibility. As the table below demonstrates, excluding the estimated Prozac profit contributions, Lilly possesses more than ample capacity to make requisite research and development expenditures and to cover interest.

Prozac Sensitivity Analysis

(\$ Millions)	12/31/98
EBIT	2,825
Est. Prozac Profit Contribution	(1,662)
Prozac Adjusted EBIT	1,163
Pro-Forma Interest Expense	228
Prozac Adjusted Interest Coverage	5.1

To compensate for the impending expiration of the Prozac patent, Lilly has augmented its product portfolio with five key product launches -- Zyprexa, Gemzar, Humalog, ReoPro, and Evista. These products accounted for 93% of the Company's revenue growth in 1998 and represented 26% (\$2.4 billion) of total sales versus 4% at 12/31/96. These products have the potential to generate \$6 billion in sales by 2002. The following table summarizes the performance of these growth drivers.

Product	Treatment	Product Launch	1998 Sales (Millions)	1998 Sales Growth	1H 1999 Sales Growth
Zyprexa	Schizophrenia	1996	\$ 1,440	98%	29%
Gemzar	Cancer	1996	\$ 307	76%	41%
Humalog	Diabetes	1996	\$ 130	91%	71%
ReoPro	Angina	1995	\$ 365	44%	26%
Evista	Osteoporosis	1998	\$ 144	N/A	150%

Lilly continues to invest heavily in the next generation of products, focusing on CNS, diabetes, oncology, and cardiovascular products. Research and development spending totaled \$6.2 billion over the last five years. The Company is

partnering with other companies such as Sanofi and Sepracor to leverage research efforts. The Company is also investing to extend the use of existing products to new treatments.

Price Pressure

Reflecting competitive and regulatory pressures, Lilly has discounted prices to large purchasers of pharmaceuticals — managed care groups, long-term care institutions, and government programs. President Clinton's proposal to add prescription coverage to Medicare or other proposed legislative changes to the program could result in further price erosion. Some industry analysts have suggested that the expansion of the drug benefit under Medicare may eventually lead to price controls in the pharmaceutical industry. Such sentiment (and pending patent expirations) is reflected in prices of large-cap pharmaceutical stocks, which have fallen 25% on average from their 52-week highs. However, Lilly possesses ample financial and operating flexibility to withstand the potential margin pressure resulting from incremental product discounts under proposed Medicare mandates.

Event Risk

The pharmaceutical industry has undergone significant consolidation over the last ten years as companies sought to leverage research and development spending and expand product pipelines. Given Lilly's size relative (\$9 billion in revenues, \$70.8 billion market capitalization) to other major pharmaceutical companies such as Merck (\$27 billion in revenues, \$148 billion market capitalization), Pfizer (\$13.5 billion in revenues, \$128 billion market capitalization), and Bristol-Myers Squibb (\$18 billion in revenues, \$130 billion market capitalization), there is the potential that the Company could be involved in merger/acquisition activity as a target or suitor. Such a transaction could strengthen Lilly's operating profile but is not expected to weaken the Company's financial profile. The large-cap pharmaceutical sector has been a "AAA/AA" rated segment, reflecting strong cash flow and the desire for conservative financial leverage to offset the product development risks of the industry. Traditionally, merger and acquisition activity in the large cap pharmaceutical sector has been effected through stock-for-stock transactions.

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EXECUTIVE OFFICERS

Sidney Taurel

Chairman of the Board (since January 1999), President and Chief Executive Officer (since June 1998)

Charles E. Golden

Executive Vice President and Chief Financial Officer (since March 1996)

August M. Watanabe, M.D.

Executive Vice President, Science and Technology (since February 1996)

Mitchell E. Daniels, Jr.

Senior Vice President, Corporate Strategy and Policy (since June 1998)

Rebecca O. Goss

Senior Vice President and General Counsel (since June 1998)

BOARD OF DIRECTORS

Sidney Taurel

Chairman of the Board, President and Chief Executive Officer

Steven C. Beering, M.D.

President, Purdue University

Alfred G. Gilman, M.D., Ph.D.

Regental Professor and Chairman - Department of Pharmacology, The University of Texas Southwestern Medical Center at Dallas

Charles E. Golden

Executive Vice President and Chief Financial Officer

Karen N. Horn, Ph.D.

Senior Managing Director and Head of International Private Banking, Bankers Trust Company

Kenneth L. Lsy, Ph.D.

Chairman of the Board and Chief Executive Officer, Enron Corp.

Franklyn G.
Prendergast, M.D., Ph.D.

Edmond and Marion Guggenheim Professor of Biochemistry and Molecular Biology and Director, Mayo Clinic Cancer Center

Kathi P. Scifert

Group President, North American Personal Care Products, Kimberly-Clark Corporation

August M. Watanabe, M.D.

Executive Vice President, Science and Technology

Alva O. Way

Chairman of the Board, IBJ Whitehall Bank & Trust Company

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CONSOLIDATED CONDENSED BALANCE SHEETS
(Unaudited)
Eli Lilly and Company and Subsidiaries

	June 30, 1999	December 31, 1998
	(Dollars in millions)	
ASSETS		
CURRENT ASSETS		
Cash and cash equivalents.....	\$ 2,031.7	\$ 1,435.7
Short-term investments.....	63.1	101.4
Accounts receivable, net of allowances for doubtful accounts of \$36.0 (1999) and \$64.3 (1998).....	1,383.8	1,967.9
Other receivables.....	227.4	278.8
Inventories.....	843.4	999.9
Deferred income taxes.....	276.7	322.7
Prepaid expenses.....	315.4	233.4
TOTAL CURRENT ASSETS.....	5,247.5	5,409.8
OTHER ASSETS		
Prepaid retirement.....	620.6	612.3
Investments.....	174.2	204.0
Goodwill and other intangibles, net of allowances for amortization of \$114.9 (1999) and \$171.4 (1998):.....	119.9	1,517.9
Sundry.....	804.6	758.2
	1,719.3	3,092.4
PROPERTY AND EQUIPMENT		
Land, buildings, equipment, and construction-in-progress.....	7,082.1	7,274.5
Less allowances for depreciation.....	3,220.7	3,178.2
	3,861.4	4,096.3
	\$10,829.2	\$12,598.5
LIABILITIES AND SHAREHOLDERS' EQUITY		
CURRENT LIABILITIES		
Short-term borrowings.....	\$ 358.7	\$ 181.4
Accounts payable.....	343.2	1,104.0
Employee compensation.....	336.3	704.0
Dividends payable.....	-	252.9
Income taxes payable.....	1,159.0	1,190.2
Other liabilities.....	841.3	992.7
TOTAL CURRENT LIABILITIES.....	3,039.7	4,447.2
LONG-TERM DEBT	1,979.1	2,185.5
DEFERRED INCOME TAXES	236.5	247.9
DEFERRED MEDICAL BENEFIT OBLIGATION	114.6	114.7
OTHER NONCURRENT LIABILITIES	1,019.5	1,010.6
	3,329.7	3,558.7
COMMITMENTS AND CONTINGENCIES		
SHAREHOLDERS' EQUITY		
Common stock.....	583.4	588.3
Retained earnings.....	4,425.6	4,228.8
Deferred costs-BEWM.....	(141.7)	(146.9)
Accumulated other comprehensive income.....	(408.2)	(229.8)
	4,359.1	4,339.4
Less cost of common stock in treasury.....	109.3	109.0
	4,249.8	4,230.4
	\$10,829.2	\$12,598.5

CONSOLIDATED CONDENSED STATEMENTS OF INCOME
(Unaudited)
Eli Lilly and Company and Subsidiaries

	Three Months Ended June 30, 1999		Six Months Ended June 30, 1999	
	1999	1998	1999	1998
(Dollars in millions except per-share data)				
Net sales.....	\$2,341.6	\$2,133.0	\$4,397.2	\$4,242.9
Cost of sales.....	491.1	478.6	964.6	935.9
Research and development.....	408.3	416.7	813.6	779.6
Marketing and administrative.....	649.6	537.4	1,242.8	1,190.9
Asset impairment.....	-	-	61.4	-
Interest expense.....	43.8	42.7	86.9	90.6
Other (income) expense - net.....	(41.6)	(67.7)	63.7	(93.6)
	1,692.8	1,597.7	3,314.7	2,891.4
Income from continuing operations before income taxes and extraordinary item.....	739.0	647.3	1,262.3	1,350.6
Income taxes.....	162.6	156.4	254.7	328.1
Income from continuing operations before extraordinary item.....	576.4	490.9	1,027.6	1,022.5
Income (loss) from discontinued operations, net of tax.....	-	0.4	174.3	(2.9)
Extraordinary item - loss on early redemption of debt, net of tax.....	-	-	-	(7.2)
Net income.....	\$ 576.4	\$ 491.3	\$1,202.3	\$1,012.4
EARNINGS PER SHARE - BASIC:				
Income from continuing operations before extraordinary item.....	\$.53	\$.45	\$.94	\$.91
Discontinued operations.....	-	-	.16	-
Extraordinary item.....	-	-	-	(.01)
Net income.....	\$.53	\$.45	\$ 1.10	\$.90
EARNINGS PER SHARE - DILUTED:				
Income from continuing operations before extraordinary item.....	\$.52	\$.44	\$.92	\$.91
Discontinued operations.....	-	-	.16	-
Extraordinary item.....	-	-	-	(.01)
Net income.....	\$.52	\$.44	\$ 1.08	\$.90
Dividends paid per share.....	\$.23	\$.20	\$.46	\$.40

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CONSOLIDATED CONDENSED STATEMENTS OF CASH FLOWS (Unaudited)

Eli Lilly and Company and Subsidiaries

	Six Months Ended June 30,	
	1999	1998
	(Dollars in millions)	
CASH FLOWS FROM OPERATING ACTIVITIES		
Net income.....	\$ 1,202.1	\$ 1,012.1
Adjustments to reconcile Net Income to Cash		
Flows from Operating Activities:		
Changes in operating assets and liabilities.....	(899.5)	(612.5)
Depreciation and amortization.....	224.4	236.8
Change in deferred taxes.....	9.5	204.6
Gain on sale of PCS, net of tax.....	(174.3)	-
Asset impairment, net of tax.....	39.9	-
Other items, net.....	5.0	(49.3)
NET CASH FROM OPERATING ACTIVITIES.....	607.1	791.4
CASH FLOWS FROM INVESTING ACTIVITIES		
Net additions to property and equipment.....	(194.0)	(177.5)
Additions to other assets.....	(89.5)	(25.3)
Reductions of investments.....	123.6	160.7
Additions to investments.....	(34.8)	(28.3)
Divestitures/acquisitions.....	(21.9)	-
Proceeds from sale of PCS.....	1,400.0	-
NET CASH FROM (USED FOR) INVESTING ACTIVITIES.....	1,393.5	(90.4)
CASH FLOWS FROM FINANCING ACTIVITIES		
Dividends paid.....	(502.2)	(440.7)
Purchase of common stock and other capital		
transactions.....	(890.3)	(964.0)
Net reductions to short-term borrowings.....	(19.3)	(14.4)
Net reductions to long-term debt.....	(1.1)	(23.0)
NET CASH USED FOR FINANCING ACTIVITIES.....	(1,413.3)	(1,342.3)
Effect of exchange rate changes on cash.....	(41.3)	(1.2)
NET INCREASE (DECREASE) IN CASH AND CASH		
EQUIVALENTS.....	336.0	(632.3)
Cash and cash equivalents at January 1.....	1,495.7	1,947.9
CASH AND CASH EQUIVALENTS AT JUNE 30.....	\$ 2,031.7	\$ 1,315.2

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Consolidated Statements of Income
 ELI LILLY AND COMPANY AND SUBSIDIARIES
 (Dollars in millions, except per-share data)

Year Ended December 31	1998	1997	1996
Net sales	\$9,236.8	\$7,987.7	\$6,998.3
Cost of sales	2,015.1	1,946.0	1,872.1
Research and development	1,738.9	1,370.2	1,189.5
Marketing and administrative	2,658.3	2,233.1	1,892.4
Acquired in-process technology (Note 4)	127.5	-	-
Asset impairment (Note 3)	-	97.8	-
Gain on sale of DowElanco (Note 4)	-	(631.8)	-
Interest expense	181.3	232.7	288.0
Other income-net	(149.3)	(161.4)	(375.0)
	<u>6,571.8</u>	<u>5,086.6</u>	<u>4,867.0</u>
Income from continuing operations before income taxes and extraordinary item	2,665.0	2,901.1	2,131.3
Income taxes (Note 11)	<u>568.7</u>	<u>885.2</u>	<u>505.6</u>
Income from continuing operations before extraordinary item	2,096.3	2,015.9	1,625.7
Income (loss) from discontinued operations, net of tax (Note 3)	8.8	(2,401.0)	(102.2)
Extraordinary item, net of tax (Note 6)	<u>(7.2)</u>	<u>-</u>	<u>-</u>
Net income (loss)	<u>\$2,097.9</u>	<u>\$ (385.1)</u>	<u>\$1,523.5</u>
Earnings (loss) per share - basic (Note 10):			
Income from continuing operations before extraordinary item	\$ 1.91	\$ 1.83	\$ 1.48
Income (loss) from discontinued operations Extraordinary item .....	.01 (.01)	(2.18) -	(.09) -
Net income (loss)	<u>\$ 1.91</u>	<u>\$ (.35)</u>	<u>\$ 1.39</u>
Earnings (loss) per share - diluted (Note 10):			
Income from continuing operations before extraordinary item	\$ 1.87	\$ 1.78	\$ 1.45
Income (loss) from discontinued operations Extraordinary item01 (.01)	(2.12) -	(.09) -
Net income (loss)	<u>\$ 1.87</u>	<u>\$ (.34)</u>	<u>\$ 1.36</u>

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Consolidated Statements of Cash Flows
 ELI LILLY AND COMPANY AND SUBSIDIARIES
 (Dollars in millions)

Year Ended December 31	1998	1997	1996
Cash Flows From Operating Activities			
Net income (loss)	\$2,097.9	\$ (385.1)	\$1,523.5
Adjustments To Reconcile Net Income (Loss) to Cash Flows From Operating Activities			
Depreciation and amortization	490.4	509.8	543.5
Change in deferred taxes	25.4	(293.0)	207.3
Gain on sale of DowElanco, net of tax	-	(303.5)	-
Asset impairment, net of tax	-	2,429.6	-
Other noncash income-net	(93.0)	(37.8)	(97.8)
	<u>2,520.7</u>	<u>1,920.0</u>	<u>2,176.5</u>
Changes in operating assets and liabilities:			
Receivables--(increase) decrease	(403.6)	(4.7)	104.4
Inventories--(increase)	(55.6)	(65.8)	(42.2)
Other assets--(increase)	(81.1)	(22.2)	(51.7)
Accounts payable and other liabilities--increase (decrease)	<u>649.4</u>	<u>573.1</u>	<u>(195.6)</u>
	<u>109.1</u>	<u>480.4</u>	<u>(185.1)</u>
Net Cash From Operating Activities	2,629.8	2,400.4	1,991.4
Cash Flows From Investing Activities			
Acquisitions	-	-	(97.1)
Additions to property and equipment	(419.9)	(366.3)	(443.9)
Disposals of property and equipment	30.6	11.5	11.2
Additions to other assets	(120.1)	(34.2)	(40.8)
Reductions of investments	273.1	365.7	396.9
Additions to investments	(57.6)	(388.5)	(294.3)
Proceeds from sale of DowElanco	-	<u>1,221.5</u>	-
Net Cash From (Used for) Investing Activities	(293.9)	809.7	(468.0)
Cash Flows From Financing Activities			
Dividends paid	(877.7)	(818.0)	(753.2)
Purchases of common stock and other capital transactions	(1,999.8)	(351.3)	(314.5)
Issuances under stock plans	414.0	205.4	218.4
Issuance (redemption) of subsidiary stock	(172.8)	160.0	-
Decrease in short-term borrowings	(170.0)	(1,146.0)	(801.4)
Additions to long-term debt	23.8	2.8	-
Reductions of long-term debt	(30.2)	(7.5)	(10.4)
Net Cash Used for Financing Activities	(2,812.7)	(1,954.6)	(1,661.1)
Effect of exchange rate changes on cash	25.0	(121.7)	(48.1)
Net increase (decrease) in cash and cash equivalents	(451.8)	1,133.8	(185.8)
Cash and cash equivalents at beginning of year	<u>1,947.5</u>	<u>813.7</u>	<u>999.5</u>
Cash and cash equivalents at end of year	<u>\$1,495.7</u>	<u>\$1,947.5</u>	<u>\$ 813.7</u>

Elit Lilly & Company
(In Millions of US Dollars)

	Revenues	EBITDA	Depreciation & Amortization	EBIT	Net Income	Dividends
Six Months Ended 6/30,						
1996	4,597	1,891	224	1,487	1,202	502
1998	4,242	1,593	239	1,347	1,012	441
Twelve Months Ended 12/31						
1996	8,237	3,315	490	2,825	2,068	878
1997	7,988	2,940	510	2,439	(365)	818
1998	6,998	2,568	544	2,044	1,524	753
1999	6,908	2,937	564	2,083	2,291	747
2000	6,587	2,162	432	1,730	1,288	723

Schedule of Pro Forma Matur Operating Leases

	1999	2000	2001	2002	2003
Total	182.0	214.0	183.0	12.0	211.0
5-Year Avg	182.0	214.0	183.0	12.0	211.0
Tax Adjustmen	150.4	150.4	150.4	150.4	150.4
Tax Adj 5-Yr Avg	1.9	1.9	1.9	1.9	1.9

DEBT	Principal	Rate	Interest Expense
Short-Term Debt	357	8.00%	21
Notes	1,750	7.50%	131
Eurodollar Bonds	133	8.20%	11
ESOP	100	6.50%	7
Capital Securities Offered Hereby	825	6.99%	58
		Total	228

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Blewitt 11/17/2006 Deposition Exhibit 10

D's Exhibit 549

JOHN HANCOCK LIFE INSURANCE COMPANY

Bond & Corporate Finance Group

Report Date: June 8, 2000

Recommendation to B.I.C.: June 8, 2000

Report to C.O.F.: July 10, 2000

Private

Purchase Recommendation

GBSA \$20.0 million GBRE \$5.0 million

PHARMA MARKETING LTD.

Bermuda

We are recommending the purchase of \$25 million of a \$275 million issuance of common stock of Pharma Marketing Ltd. Pharma Marketing is a newly-formed Bermuda company that, through its wholly-owned subsidiary Pharma Operating Ltd., is establishing a program with two wholly-owned subsidiaries of Elan Corporation, plc ("Elan Subsidiaries") to fund the development and commercialization of seven pharmaceutical products owned by the Elan Subsidiaries. The common stock will carry a dividend yield of 6.50%, payable quarterly, in cash. The purpose of this transaction is reduce the short-term effect on Elan's income statement of launching such a large number of products over the next two years.

Pharma Operating will use the net proceeds of this offering to make payments during the next two years, in accordance with a pre-established budget, to the Elan Subsidiaries in amounts equal to expenditures made by Elan for the development and commercialization of a pool of seven pharmaceutical products. The products represent most the significant products in Elan's near-term product pipeline and four of its new drug launches planned for 2000 and 2001. In return for the development and commercialization payments, the Elan Subsidiaries will agree to pay royalties to Pharma Operating in perpetuity in amounts equal to predetermined percentages of the net sales of the products in the United States and in certain parts of Europe. The Elan Subsidiaries will have the option, but not the obligation, to purchase the Pharma Operating's rights to receive the royalties at a price that would provide an IRR (for a minimum of two years) of 25% to the Investors, or another mutually agreed upon price.

Our recommendation is based upon the substantial likelihood that the Investors will receive a two-year IRR of 25% balanced against a modest risk that Elan's products will not be approved by the FDA or will not generate the level of revenues that we and Elan expect.

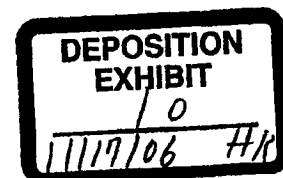
Report Authors:

Stephen J. Blewitt, Managing Director

Scott Hartz, Managing Director

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JOHN HANCOCK LIFE INSURANCE COMPANY

Bond & Corporate Finance Group

Report Date: June 8, 2000

Recommendation to B.I.C.: June 8, 2000

Report to C.O.F.: July 10, 2000

Private

Purchase Recommendation

GBSA \$20.0 million GBRE \$5.0 million

ISSUER: Pharma Marketing Ltd. ("Pharma Marketing" or "Holdco")

ISSUE: \$275 million of Common Stock

RATINGS: JH: N/R

BROKER: Donaldson, Lufkin & Jenrette

DIVIDENDS: 6.50%, payable quarterly

SIC CODE: 2830 - Drugs

PARTICIPANTS:

DLJ	\$100,000,000
Teachers Insurance	50,000,000
John Hancock	25,000,000
Others	\$100,000,000

USE OF PROCEEDS: To fund the development and commercialization of seven pharmaceutical products ("Product Pool") owned by two subsidiaries of Elan Corporation plc. ("Elan Subsidiaries"), to pre-fund two years of dividend payments, and to pay for transaction and administrative expenses.

STATE OF INC.: Bermuda

CIRCLE DATE: May 30, 2000

TAKEDOWN DATE: Upon completion of documentation

ROYALTIES: Ninety days after the completion of each calendar quarter occurring between April 1, 2000 and December 31, 2001, the Elan subsidiaries shall pay to the Pharma Operating an amount equal to the applicable percentage of the Net Sales of Zanaflex IR during such quarter.

Thereafter, the Elan Subsidiaries shall pay to the Company, 90 days after the completion of each calendar quarter, an amount equal to the applicable percentage of the Net Sales of all Products in the Pool during such quarter.

AUCTION PROCESS: The Elan Subsidiaries may, at their sole option, elect to initiate an auction process with respect to the Company's Royalty Rights under the Program (the "Auction Process") at any time; *provided, however*, that the Auction Process may be initiated by the Company upon the occurrence and during the continuance of an event of default by Elan or the Elan Subsidiaries under the Agreements.

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The Auction Process will proceed in two steps as follows:

Step #1: Mutual Agreement. The Elan Subsidiaries will have the option, but not the obligation, to purchase the Company's Royalty Rights under the Program at a price that would provide an IRR (for a minimum of two years) of 25% to the Investors (the "Net Auction Price"), or other mutually agreed upon price. The Net Auction Price is subject to adjustment if the Company stops making payments to the Elan Subsidiaries.

If the Elan Subsidiaries do not purchase the Company's Royalty Rights under the Program on or prior to the 90th day following the commencement of the Auction Process, the second step will occur.

Step #2: Hold Period and Liquidation. The Company will hold and not dispose of its Royalty Rights under the Program, except to the Elan Subsidiaries, prior to the earlier of (i) the third anniversary of the Closing Date or (ii) the earlier of the twelve-month anniversary of (a) the first date on which there are no Available Amounts or (b) the date on which the Auction Process is initiated. Thereafter, the Company may, in its sole discretion, determine to hold or liquidate the Company's Royalty Rights under the Program in whole or in part. In the event the Company elects to liquidate its Royalty Rights in whole or in part, the Company will provide the Elan Subsidiaries with 30 days' prior written notice.

MANAGEMENT:

The business and affairs of Pharma Marketing will be managed under the direction of its board of directors (the "Holdco Board"), which will be elected by the holders of the Common Shares.

The Holdco Board act by a simple majority, except as follows:

- The affirmative vote of at least 66-2/3% of the Company Board will be required to amend the Budget Amount for any product (other than a permitted reallocation).
- The affirmative vote of at least 90% of the Company Board will be required to:
 - Change the composition of the Pool;
 - Change the amount or timing of payment of any Royalty;
 - Accept an offer from the Elan Subsidiaries to purchase the Company's Royalty Rights under the Program for less than the Net Auction Price; or
 - Enter into any transaction other than in connection with the Program or a liquidation.

The affirmative vote of the holders of at least 90% of the Common Shares will be required for the Company to stop making Program Payments to the Elan Subsidiaries under the Program.

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FINANCIAL COVENANTS: Including, but not limited to:

(For Pharma Marketing and Pharma Operating)

Limitations on indebtedness, limitations on liens, limitations on sales, assignments, licenses or other transfers or dispositions of Royalty Rights, limitations on payments from and investments of Available Amounts and amounts held in the Loan Account and Expense Account;

(For Elan Subsidiaries)

Limitations on liens, sales, assignments, licenses or other transfers or dispositions of its rights in any Product in the Pool.

**GUARANTEE
AGREEMENT:**

Elan Corporation plc. will unconditionally guarantee the obligations of the Elan Subsidiaries under the Program Agreement

HANCOCK HOLDINGS:

None

RELATED HOLDINGS:

\$70,000,000 Elan Corporation plc.

ANALYST:

Stephen J. Blewitt

HOUSE COUNSEL:

Malcolm Pittman

SPECIAL COUNSEL:

Dewey, Ballantine

Report Authors:

Stephen J. Blewitt, Managing Director

Scott Hartz, Managing Director

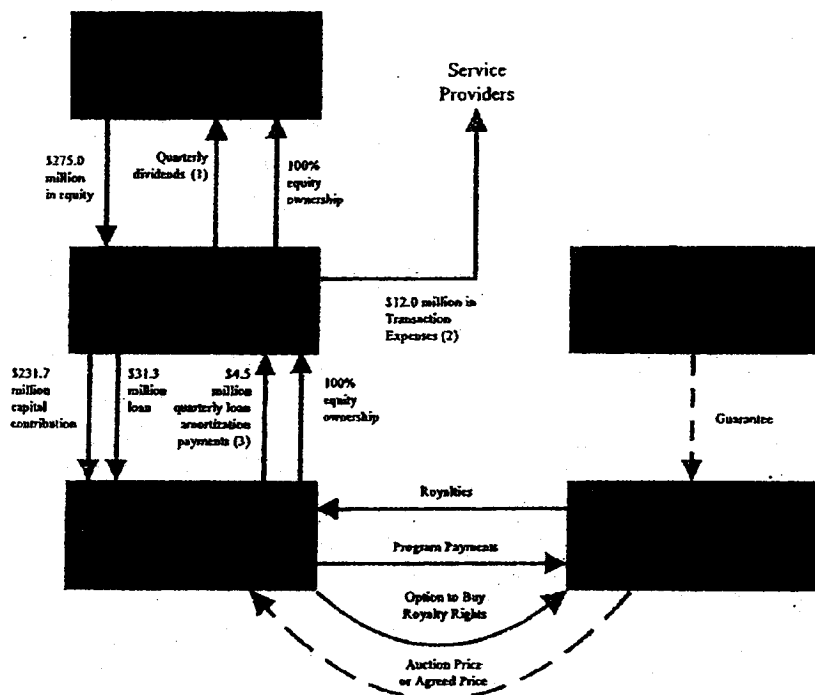
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TRANSACTION OVERVIEW

Pharma Marketing Ltd. ("Pharma Marketing" or "Holdco") is a newly-formed Bermuda company. Pharma Marketing, through its wholly-owned subsidiary Pharma Operating Ltd. ("Pharma Operating" or the "Company"), is establishing a program (the "Program") with Elan Pharma International Limited and Axogen Limited (the "Elan Subsidiaries"), subsidiaries of Elan Corporation, plc ("Elan").

Pharma Operating will use the net proceeds of this offering to make payments during the next two years, in accordance with a pre-established budget, to the Elan Subsidiaries in amounts equal to expenditures made by Elan for with the development and commercialization of a pool of seven pharmaceutical products. The products represent most of the significant products in Elan's near-term product pipeline and four of its new drug launches planned for 2000 and 2001. In return for the development and commercialization payments, the Elan Subsidiaries will agree to pay royalties to Pharma Operating in perpetuity in amounts equal to predetermined percentages of the net sales of the products in the United States and in certain parts of Europe. The Elan Subsidiaries will have the option, but not the obligation, to purchase the Pharma Operating's rights to receive the royalties at a price that would provide an IRR (for a minimum of two years) of 25% to the Investors, or another mutually agreed upon price.

Transaction Summary

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OVERVIEW OF ELAN CORPORATION

Elan is a worldwide pharmaceutical and biotechnology company. Elan's traditional business is the development of products for pharmaceutical clients utilizing its proprietary drug delivery systems. Elan offers its pharmaceutical clients a range of drug delivery solutions that are designed to improve pharmacokinetics, absorption and dosing convenience. Over the past four years, Elan has pursued a strategy to transition its business to become a fully integrated pharmaceutical and biotechnology company. As of March 31, 2000, Elan has built an approximately 500-person U.S. salesforce that focuses on neurologists, primary care physicians, epileptologists and pain management specialists, together with an approximately 200-person European sales force. Elan's principal research facilities are located in Ireland, the United States and Israel. Elan employs approximately 3,000 people worldwide, with about 770 employees engaged in research and development and related activities.

For the year ended December 31, 1999, Elan had revenues and net income of approximately \$1,004 million and \$350 million, respectively. Elan currently has investment grade debt ratings from S&P and Moody's of BBB and Baa3, respectively. As of June 30, 2000, Elan had a market capitalization of approximately \$10.6 billion.

**ELAN CORPORATION PLC.
CONSOLIDATED STATEMENT OF OPERATIONS**

(\$ in thousands, except per share data)

	Fiscal Years Ended December 31,		
	1997	1998	1999 (1)
Revenues:			
Product sales	\$215,486	\$342,078	\$552,402
Royalties and fees	110,906	239,133	278,524
Research revenues	57,789	95,523	173,483
Total revenues	384,181	676,734	1,004,409
Costs and expenses:			
Cost of goods sold	106,182	137,935	211,184
Selling, general and administrative	71,764	155,869	252,451
Research and development	75,160	143,536	233,109
Total operating expenses	253,106	437,340	696,744
Operating income before one-time charges	131,075	239,394	307,665
Net interest and other income	40,250	17,585	49,936
Other charges	-	(1,423,718) (2)	(88,610) (3)
Income (loss) before taxation	171,325	(1,184,324)	268,991
Net income (loss)	\$170,139	(\$1,170,613)	\$261,702
Diluted EPS before other charges (4)	\$0.86	\$0.97	\$1.24
Fully diluted EPS	\$0.77	(\$4.91)	\$0.93

(1) Unaudited.

(2) Other charges of \$1,423,718 consist of \$1,311,149 in connection with the acquisitions of Neurax, Sano, NanoSystems and Camrick; \$41,747 of costs related to the rationalization and integration of Sano; \$3,322 incurred resulting from a loss on disposal of an investment and loan note which were acquired as proceeds from a sale of a business; and \$67,500 incurred resulting from a cash contribution by Elan to Axogen.

(3) Source: Other charges of \$88,610 principally in connection with the acquisition of Axogen.

(4) Not per U.S. GAAP.

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PHARMA MARKETING LTD.

A. PRODUCT POOL

The Product Pool is divided into two subpools. Subpool A consists of five products and subpool B consists of two products. The Pool includes one marketed product, one approved products, three products in registration that Elan expects to launch in 2000 and 2001 and two product in Phase II trials. The products are described more fully below:

(\$ in millions) Product	Indication	Est. Market Size (1)	Stage of Development
Subpool A:			
Zanaflex IR	Treatment of muscle spasticity in adults	\$800	Development Stage: Approved Expected Launch: On Market
Zanaflex MR	Treatment of muscle spasticity in adults	\$800	Development Stage: Phase II-III trials Expected Launch: 2003
Zonegran	Anti-epilepsy drug (AED) - adjunctive therapy for partial seizures	1,500	Development Stage: Approved Expected Launch: Q2 2000
Neurobloc	Treatment of cervical dystonia	176	Development Stage: In registration Expected Launch: Mid-year 2000
Frovatriptan	Acute migraine treatment	1,000	Development Stage: In registration Expected Launch: Q1 2001
Subpool B:			
Ziconotide Intrathecal	Severe chronic pain	500	Development Stage: NDA filed Q4 1999; 6-month Priority Review Expected Launch: 2 nd half 2000
Ziconotide Epidural	Acute post-operative pain	2,000	Development Stage: Phase II trials Expected Launch: 2004

B. SUMMARY OF PROJECTED NET SALES

(\$ in millions)	Name	2000 (2)	2001	2002	2003	2004	2005
Subpool A:							
	Zanaflex IR / MR	\$50.3	\$95.1	\$112.2	\$125.9	\$120.3	\$111.0
	Zonegran	25.0	35.0	43.0	57.0	74.4	96.0
	Neurobloc	30.0	47.0	76.0	131.8	188.3	245.0
	Frovatriptan	—	45.1	76.1	115.7	141.1	149.0
Subpool B:							
	Ziconotide Intrathecal	40.0	95.1	156.0	202.8	254.5	319.1
	Ziconotide Epidural	—	—	—	—	6.4	46.2
	Total Net Sales	\$145.3	\$317.3	\$463.3	\$633.2	\$785.0	\$966.3
	% U.S.	95.0%	95.7%	95.2%	94.3%	90.4%	86.6%
	% Europe	5.0%	4.3%	4.8%	5.7%	9.6%	13.4%

(1) Estimated annual sales of therapies addressing market. Source: Elan estimates.

(2) April 1, 2000 to December 31, 2000.

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C. SUMMARY BUDGET

Pharma Operating will make payments to the Elan Subsidiaries in amounts equal to expenditures made by Elan, affiliates of Elan and designated third parties in connection with the commercialization and, to a lesser extent, development of Products in the Pool. Commercialization expenses consist primarily of sales and marketing costs. Development expenses consist primarily of the costs associated with the receipt of U.S. Food and Drug Administration ("FDA") approval for four of the Products. The following table summarizes the Company's expected budget during the Program Period:

(\$ in millions)	2000E (1)	2001E	2002E (2)	Total
Beginning Cash Balance	\$263.0 (3)	\$168.5	\$34.7	\$263.0
Royalties (4)	0.8	3.6	1.1	5.5
Investment Income	7.8	6.6	0.3	14.7
Loan Payments	(8.9)	(17.9)	(4.5)	(31.3)
Administrative Expenses	(0.2)	(0.3)	(0.1)	(0.6)
Program Payments/Commercialization Expenses	(62.3)	(101.3)	(24.7)	(188.3)
Program Payments/Development Expenses	(31.7)	(24.5)	(5.3)	(61.5)
Ending Cash Balance	\$168.5	\$34.7	\$1.5	\$1.5

D. ROYALTY RIGHTS

Under the Program, the Company has the right to receive Royalties from the Elan Subsidiaries in amounts equal to predetermined percentages of the Net Sales generated by the Pool in the United States and, excluding Frovatriptan, in certain parts of Europe. The Royalties will be payable quarterly in arrears. For the period from April 1, 2000 to December 31, 2001, the Company will receive Royalties only in respect of Zanaflex IR. Thereafter, the Company will receive Royalties on the entire Pool. The Royalty calculation includes:

- c **Increasing Royalty Percentage.** The Royalty rate for Subpool A and Subpool B increases over time and, by 2005, reaches an effective rate of 28.0% and 15.9%, respectively, or a blended effective Royalty rate of 23.4% of the aggregate Net Sales of the entire Pool. Note that, for the period from April 1, 2000 to December 31, 2001, the Royalties will be based exclusively on the Net Sales of Zanaflex IR.
- c **Portfolio vs. Product Calculation.** After 2001, the Royalties are based on the aggregate Net Sales of all Products in Subpool A and Subpool B, as opposed to the Net Sales of a single Product.
- c **Two-Tranche Calculation.** The Royalty calculation is split into two tranches for both Subpool A and Subpool B, such that, at 40% of Projected Net Sales of the Products in Subpool A or Subpool B (in each case, the "Hurdle Amount"), the Company receives 75% of the Projected Royalties for such Subpool. The following table highlights the calculation of the Royalties for Subpool A and Subpool B assuming 100% of Projected Net Sales are achieved:

(1) Assumes a closing date of May 31, 2000.

(2) January 1, 2002 to May 31, 2002.

(3) Assumes Transaction Expenses are \$12.0 million.

(4) Royalties based only on the Net Sales of Zanaflex IR in years 2000 and 2001. Thereafter, Royalties based on the Net Sales of the entire Pool.

E. SUMMARY OF PROJECTED ROYALTIES

(\$ in millions)	2000 (1)	2001	2002	2003	2004	2005 (2)
<u>Projected Net Sales</u>						
Subpool A	\$50.3	\$95.1	\$307.3	\$430.4	\$524.1	\$601.0
Subpool B	—	—	156.0	202.8	260.9	365.3
Total Projected Net Sales	\$50.3 (3)	\$95.1 (3)	\$463.3	\$633.2	\$785.0	\$966.3
Subpool A Hurdle Amount (4)	\$20.1	\$38.0	\$122.9	\$172.2	\$209.6	\$240.4
Subpool B Hurdle Amount (4)	—	—	62.4	81.1	104.4	146.1
<u>Subpool A:</u>						
Royalty Rate up to Hurdle Amount	4.69%	8.44%	15.79%	27.71%	41.42%	52.50%
Royalty Rate above Hurdle Amount	1.04	1.88	3.51	6.16	9.20	11.67
Effective Rate	2.50%	4.50%	8.42%	14.78%	22.09%	28.00%
<u>Subpool B:</u>						
Royalty Rate up to Hurdle Amount	—	—	7.88%	9.75%	13.50%	29.81%
Royalty Rate above Hurdle Amount	—	—	1.75	2.17	3.00	6.63
Effective Rate	—	—	4.20%	5.20%	7.20%	15.90%
<u>Subpool A:</u>						
Royalties up to Hurdle Amount	\$0.9	\$3.2	\$19.4	\$47.7	\$86.8	\$126.2
Royalties above Hurdle Amount	0.3	1.1	6.5	15.9	28.9	42.1
Subtotal Royalties	\$1.3	\$4.3	\$25.9	\$63.6	\$115.8	\$168.3
<u>Subpool B:</u>						
Royalties up to Hurdle Amount	—	—	\$4.9	\$7.9	\$14.1	\$43.6
Royalties above Hurdle Amount	—	—	1.6	2.6	4.7	14.5
Subtotal Royalties	—	—	\$6.6	\$10.5	\$18.8	\$58.1
Total Royalties	\$1.3 (3)	\$4.3 (3)	\$32.4	\$74.2	\$134.6	\$226.4

(1) April 1, 2000 to December 31, 2000.

(2) For Subpool A and Subpool B, Royalty rates up to and above Hurdle Amounts for 2005 remain in effect for all years thereafter.

(3) Royalties based only on the Net Sales of Zanaflex IR.

(4) Represents 40% of Projected Net Sales for the Subpool.

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TRANSACTION ANALYSIS

The structure of this transaction (which includes a pool of Elan's most significant newly-approved or late-stage products, and a tiered royalty structure) offers a substantial likelihood that the Investors will receive a two-year IRR of 25%. While we do not think that we are taking the risk normally associated with that level of return, we think that the compensation is fair given the short-term nature of the return and the novelty of transaction's structure.

Expected Return. At the end of two years, Elan will have the option of buying back the royalty rights at a price that provides the Investors with a 25% IRR – approximately \$390 million, or continuing to pay an increasing royalty percentage of net sales to the Investors. Based on our analysis of the products in the Pool, a diligence review by J. Paul Waymack, M.D. (an independent consultant hired by DLJ's mezzanine fund), and pharmaceutical industry standards for likelihood of success and probable sales curves for compounds in different stages of clinical development, we think that the probability associated with Elan not repurchasing the royalties at a 25% IRR is approximately 2%. We have reached this conclusion by assigning probabilities of success, levels of peak sales, sales patterns, and years of launch for each product in the Product Pool, and running a spreadsheet model 500 times to assess outcomes. We think that there is a one-half percent chance that we will actually lose money (not more than \$50 million of the \$275 million invested) and that there is an additional 1% percent chance that we will receive lower than a 25% IRR.

In our base case, we have made the following assumptions:

Product	Phase	JH Probability Of Approval	Launch	JH Peak Sales	Comments
Zanaflex IR	On Mkt.	100%	1997	\$110 mm	Patent expires 2003; then generic
Zanaflex MR	Phase II	70%	2003	\$110 mm	Product extension
Zonegran	Approved	100%	2000	\$ 80 mm	
Neurobloc	NDA	90%	2001	\$100 mm	
Provatriptan	NDA	50%	2002	\$100 mm	Assume additional toxicity studies delay launch
Ziconotide IE	NDA	90%	2001	\$150 mm	
Ziconotide E	Phase II	60%	2004	\$150 mm	Product extension

... and calculated the value of the Royalties from the Product Pool, in two years, to be:

Assumed Elan Disc. Rate	Expected Pool Value	Probability Less than \$275	Probability Less than \$390	Probability \$390 - \$490	Probability More than \$490
15%	\$670 million	0.5%	1.5%	8.0%	90.0%

Using a substantially higher discount yield, the likelihood of losing money is still less than 1%, although the probability of receiving a lower than 25% IRR increases significantly to 7%.

Assumed Elan Disc. Rate	Expected Pool Value	Probability Less than \$275	Probability Less than \$390	Probability \$390 - \$490	Probability More than \$490
20%	\$539 million	1.0%	7.0%	16.0%	76.0%

In the event that we need to negotiate a lower Net Auction Price than \$390 million, we expect that our yield will not be lower than 6.50%. The 6.50% yield assumes that we eliminate the tiered royalty structure and accept 50% of the net profit of selling the products and allow Elan to keep the remaining 50% (to motivate them to continue selling the Products).

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Risk Analysis. The fundamental risks of this transaction are whether Elan receives marketing approval from the FDA for a sufficient number of the Pool Products and whether the commercial success of the Products are as we and Elan expect. In developing the *expected return*, we have made a number of reasonable assumptions regarding the probability of obtaining FDA approvals, marketing and sales capabilities of Elan, acceptance of the products in the marketplace and competition. In many cases, our assumptions are significantly more conservative than Elan's. However, as a further stress to the model, we have assumed that Frovatriptan is never launched and that the remaining products generate only 50% of our expected sales levels. In that scenario, we further assume that we eliminate the tiered royalty structure and accept 50% of the net profit of selling the products and allow Elan to keep the remaining 50% (to motivate them to continue selling the Products). The expected results of the "stressed case" are as follows:

Probabilities of Investment Returns
"Stressed Case"

3% probability that we will lose \$30 – 50 million of the total \$275 million invested;
3% probability that we will just get our money back (0% IRR);
35% probability that we will receive a 4% IRR; and
60% probability that we will receive a 6% IRR.

These results indicate that the downside risk of this structure is modest. The primary reason is that two products are already approved and that three products are in the latest stage of clinical development. We also benefit from the structure being a pool of products, so that if one product fails to receive approval or achieve commercial success, the impact on our return is limited (assuming that the others succeed). We are comfortable with Elan's ability to launch and market products. Elan has transitioned itself from being a technology company that developed drug delivery mechanisms into a fully-integrated pharmaceutical company. Elan currently sells seven pharmaceutical products directly and has built a salesforce that focuses on neurologist and pain specialists – the primary targets for the products in the Pool.

As a result of this analysis, we estimate that the expected risk associated with this transaction is equivalent to an investment grade bond, and that the short-term return of 25% is fair compensation for credit risk and the novelty of the structure.

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APPENDIX PRODUCT DESCRIPTIONS

Zanaflex IR and MR

Zanaflex IR was launched in the U.S. in February 1997 for the treatment of muscle spasticity from multiple sclerosis and spinal cord injury and received an expanded label in December 1997 for all adult spasticity. There are approximately 1.1 million spasticity and painful spasm sufferers in the U.S. and the market is growing at over 20% per annum. Currently there are several treatments for spasticity and painful spasm. However, only three drugs (Baclofen, Dantrium and Zanaflex IR) are specifically indicated for spasticity, and only one, Baclofen, is an oral competitor. These three products generate annual sales of approximately \$135.0 million. Valium and Warner Lambert's Neurontin are also used as treatments for spasticity and painful spasm. Elan believes Zanaflex IR is the only anti-spasticity drug actively detailed and sampled in the U.S. As a result of active marketing and its non-narcotic advantages, Zanaflex IR sales continue to grow faster than the overall market.

The rights to Zanaflex were acquired from Novartis in 1991 through an agreement that includes all forms, uses and improvements and also provides a favorable supply arrangement with Novartis. A new Zanaflex IR 2mg tablet was launched in the first quarter of 2000. This smaller convenient tablet will be very useful for titration and in treating patients that need smaller doses.

Products currently in development for spasticity include:

- A modified release formulation, Zanaflex MR
- Eisai's E-646 sperisone, a muscle relaxant currently in Phase II studies
- Parke-Davis' Pregablin, a follow-on product to Neurontin, currently in Phase III clinical trials.

The patent on Zanaflex has expired and New Chemical Entity ("NCE") marketing exclusivity expires at the end of 2001. Zanaflex MR will have three years of marketing exclusivity for any new formulation requiring new clinical studies starting from the first day marketed. Zanaflex has a distinct advantage over most of the competitors in that it is a non-narcotic that relieves spasticity and painful spasm without causing muscle weakness. Furthermore, generic competition is not anticipated before mid-2003.

Zonegran

Zonegran is an Anti Epilepsy Drug ("AED") developed for use in the U.S. as an adjunctive therapy for partial seizures in epilepsy patients. Zonegran is the third most widely prescribed AED in Japan where it has been approved since 1989. Epilepsy is a disorder of the brain characterized by sudden, recurrent seizures. In the U.S., there are approximately two million epilepsy sufferers and the market is growing at approximately 10% per annum. Despite the introduction of five new AEDs since 1993, approximately one-third of epilepsy patients have seizures that are not controlled with currently available therapies. The market for therapies addressing partial seizures is estimated to be \$1.5 billion. Zonegran will be entering a crowded market with six major competing therapies. However, unlike other new AED launches in recent years, the efficacy and safety of Zonegran has not only been established in extensive clinical trials in the U.S., but also in Japan where it has more than one million patient-years of clinical experience.

In March 1997, Elan obtained a license for the U.S. marketing rights for Zonegran from Dainippon Pharmaceuticals. FDA approval of Zonegran 100mg was received in Q1 2000. A supplemental NDA for the 25mg and 50mg capsules was filed with the FDA in April 2000. It is anticipated that these additional dosage strengths will be approved in Q3 2000. Additional development work is being done with Zonegran to further expand its market opportunity. The patent for Zonegran has expired. Zonegran has five years of marketing exclusivity from the Drug Price Competition and Patent Term Restoration Act, also known as Waxman-Hatch for its sponsors. This legislation encourages innovation by the research-based industry through extended patent life in order to compensate for the time lost during the regulatory process.

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Neurobloc

Botulinum toxin is a potent neurotoxin, best known as the cause of the potentially fatal form of bacterial food poisoning called botulism. Over the last ten years, botulinum toxin preparations have been successfully used to treat a wide variety of neuromuscular disorders. Elan's botulinum toxin type B injectable solution, Neurobloc, is being developed initially for the treatment of patients with cervical dystonia ("CD"). The Dystonia Association estimates that 50,000 people in the U.S. have CD. The only other botulinum toxin currently marketed in North America, is Botox (botulinum toxin type A). Botox, marketed by Allergan, Inc., achieved worldwide sales of \$176.0 million in 1999; it is currently the only direct competitor to Neurobloc in the U.S. Elan believes Neurobloc represents major advancements over Botox. For example, unlike Botox, Neurobloc does not require reconstitution and freezer storage and comes in multiple vial sizes. In addition, Neurobloc has been shown in clinical studies to be effective for those patients who have developed a resistance to Botox.

In December 1998, Elan filed the Product License Application for Neurobloc with the FDA. Elan expects to launch Neurobloc mid-year 2000. Elan is also considering developing botulinum toxin type B for the treatment of spasticity and other potential indications. The patent on the Neurobloc formulation process expires in 2019. The product has been granted Orphan Drug designation by the FDA and upon marketing approval the product will have seven years of marketing exclusivity under Waxman-Hatch.

Ziconotide Intrathecal and Epidural

Ziconotide Intrathecal is anticipated to be the first of a new therapeutic class of agents referred to as conopeptides. Ziconotide Intrathecal is being developed for the management of severe chronic pain. There are approximately 1.1 million people in the U.S. suffering from severe chronic pain, of which 30% suffer from malignant pain and 70% suffer from neuropathic pain. Ziconotide will represent the first non-opiate treatment alternative for patients who suffer from severe chronic malignant or non-malignant pain and the only treatment alternative for intractable pain sufferers (i.e., those patients that get no therapeutic benefit from existing chronic pain therapies). Current therapies consists of various opioids and other agents including morphine, used alone or in combination through the intrathecal route. Ziconotide offers several advantages over opioids including the effective treatment of neuropathic pain and tolerance.

Ziconotide was acquired by Elan through its acquisition of Neurex in 1998. Elan filed a New Drug Application ("NDA") with the FDA for Ziconotide Intrathecal in December 1999, and has received priority six-month review status from the FDA for the management of severe chronic pain via the intrathecal route. The Company has a partnership agreement with Medtronic, a leading manufacturer of intrathecal pumps, which will receive royalties and provide added support for Ziconotide's success.

An epidural-based delivery formulation of Ziconotide is currently in Phase II trials for acute post-operative pain. The total market is estimated at \$2.0 billion. Ziconotide has patent protection through 2011.

Frovatriptan

Frovatriptan is a receptor agonist for the acute treatment of migraine. The U.S. migraine market is now estimated to be valued in excess of \$1.0 billion. Elan believes the market remains underdeveloped as it is estimated that only 50% of the 23 million migraine sufferers in the U.S. seek treatment.

The migraine market is currently served by four triptans. Glaxo Wellcome plc markets two agents, Imitrex (oral sumatriptan) and AmERGE (naratriptan). Zeneca Wilmington Inc. and Merck & Company have recently entered the market launching Zomig and Maxalt, respectively. Pfizer Inc. plans to submit final clinical data to the FDA on the fifth triptan, Relpax, by mid-year 2000. Frovatriptan is a more potent HT10 receptor agonist than sumatriptan, the market leader, and has a longer half-life.

In January 1999, a NDA for Frovatriptan was filed with the FDA, which is currently under review. In October 1999, the FDA requested that additional pre-clinical work be performed, which is currently ongoing. Elan anticipates a launch in Q1 2001.

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Blewitt 11/17/2006 Deposition Exhibit 12

D's Exhibit 794

**John Hancock - Abbott Laboratories
Research and Development Transaction**

Investment Analysis

1. John Hancock is considering committing [\$50 million] per year for a period of four years to fund the development and commercialization of a specified pool of compounds owned by Abbott Laboratories. During the four year period, Abbott will commit three-to-four times John Hancock's investment for those compounds, and will spend over seven times our investment during the term of the transaction. In return, Abbott will agree to pay John Hancock milestone and royalty payments for each compound that reaches regulatory approval and has commercial sales.

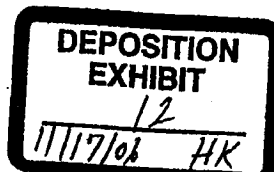
This transaction is valuable to Abbott because it allows them to offset R&D expenditures with research and development income - improving their net income. This transaction is valuable to John Hancock because it allows us to generate equity returns in the form of current (royalty) income for a sizeable investment.

Abbott Laboratories is the eight largest pharmaceutical company in the U.S. Its revenues were approximately \$13 billion in 1999 and its current market capitalization is approximately \$60 billion. Abbott is rated "Aaa" by the major rating agencies.

Our business relationship with Abbott began in 1997 when we funded a \$30 million equity investment in a development stage company called Metabolex and received the right to sell our equity to Abbott at a slight premium. Since then, Abbott has introduced us to a number of other proprietary investment opportunities and we have completed one (Idun).

2. Determining the fair economics of the proposed transaction is highly dependent upon the number of compounds included, the characteristics of the compounds (i.e. status of development, potential sales), the structure of the royalty rates, and an estimation of what is a fair return. To help us answer these questions, we have taken several steps. First, we have researched industry standards for likelihood of success and probable sales curves for compounds in different stages of development. Second, we have developed a spreadsheet model that calculates the rate of return for a chosen portfolio and have developed a minimum number of compounds and associated milestone/royalty payments to provide us with returns that adequately compensate us for the risk we are taking. Third, we have tried to determine what rate of return the capital markets would require for the level of risk that we are willing to take.

3. The current portfolio of compounds that we are considering consists of five of Abbott's late-stage development compounds and a basket of three pre-clinical cancer compounds. The late-stage compounds range from mid-Phase II to starting Phase-III. Peak annual sales for these compounds range from \$400 million to \$1.2 billion. With the exception of the "cancer basket", the compounds are independent of each other. We have not completed any diligence on the specific compounds yet other than to read Abbott's press releases and analyst reports. Assuming that Abbott has correctly characterized the development stage of each compound, we have assigned probabilities of success ("regulatory approval") and time to success for each compound. Our probabilities of success come from a 1995 study by Dr. Joseph A. DiMasi at the Tufts Center for the Study of Drug Development. Dr. DiMasi's study is generally accepted by the pharmaceutical industry as an accurate assessment of the probability of success and of the time and costs associated with drug development. Dr. DiMasi looked at a random sample of 93



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compounds in four broad disease categories from 12 pharmaceutical companies that were first tested in humans between 1970 and 1982.

Dr. DiMasi's results are summarized below:

Entering Phase	Probability of Success				
	NSAID	Cardio-vascular	Anti-infective	Neuro-pharm	All
I	22%	26%	30%	20%	23%
II	30%	41%	38%	22%	31%
III	71%	72%	77%	51%	63%

Dr. DiMasi calculated the average time to approval as 8.75 years for compounds entering Phase I, 7.5 years for compounds entering Phase II, and 5.5 years for compounds entering Phase III. Embedded in these times was an approximately 30-month review process by the FDA. Due to legislative and process changes, the average FDA review time is now approximately 12 months. A revised timeframe for approval (which was been published by TCSDD in 1999), based on accelerated review by the FDA, and quicker processes within the pharmaceutical companies, is 6.0 years for Phase I, 5.0 years for Phase II, and 3.0 years for Phase III.

During the past four years, we have evaluated many equity investments in emerging pharmaceutical and medical device companies, and we have completed several transactions. During that period, we have established relationships with reliable scientific advisors. If we proceed beyond the current step of working with Abbott on the framework of a transaction, we will test Dr. DiMasi's model for reasonableness and we will engage scientific consultants to evaluate the compounds in the portfolio.

4. In estimating sales projections by compound, we start with expected peak sales for the compound. For now, we have accepted Abbott's number for peak sales. In our diligence process, however, we will look at sales for similar compounds, the relative success of first-to-market drugs versus others, and other factors. Our next step is to use a Sales Curve calculated by Lehman Brothers that projects ramp-up and ramp-down for sizeable drugs. In general, this Curve shows peak sales being reached seven years after launch. Ramp-up is achieved by 5% of peak sales in the first year, followed by 13%, 25%, 50%, 80%, and 90%. Peak sales are maintained for three years, and the compound then achieves 85% of peak, 75%, 70%, etc. As expected, every compound has its own unique curve, and Lehman's is only a general estimate. We have compared the curve to IMS data of prescription sales for individual compounds in a number of drug classes from 1981 to 1999. Our analysis indicates that Lehman's curve is a good fit.

5. We developed a spreadsheet that incorporates multiple drug compounds (and their specific probability of success, time to launch, and expected sales pattern) and a milestone/royalty structure that is intended to lower our risk in the transaction. Having multiple compounds that are substantially far along in clinical trial, we limit our exposure to the possibility that no compound is approved and that we lose all of our money. Based on the current proposed portfolio, we believe that the risk of losing all of our money is approximately 1%. The second component of our model is to receive a milestone payment from Abbott upon regulatory approval. We have proposed \$10 million per compound. This payment is intended to return cash to John Hancock sooner and to somewhat lower the risk that actual sales do not meet projected sales. The third component of our model is to have a tiered royalty structure – such as 8% of the first \$400 million of aggregate annual sales, 4% of the next \$600 million of aggregate annual sales, and 1% of aggregate annual sales in excess of \$1 billion.

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6. The last step of our analysis is to determine what a fair economic return for this transaction should be. We have benchmarked this transactions in a number of ways, such as: R&D vehicles for pre-clinical compounds were sold with expected IRRs (over a three-to-five year period) of approximately 40%; Hambrecht & Quist has estimated pharmaceutical IRRs for single phase-II compounds to be 40% and single phase-III compounds to be 25%; the Palisade Partners (Sony movies) transaction that we participated in last year has an expected IRR of 20%; Elan Pharmaceuticals in currently in the market with a pooled transaction with an IRR of 25% (over 18-24 months); and our proprietary analysis of the equity market's IRR for Abbott's entire R&D pipeline of 16-22%. Based on these comparisons, we think that an IRR of 20-25% is reasonable – and Abbott agrees.

We also evaluated the relationship between our investment (and Abbott's) in the entire portfolio and the average royalty rate that we expect to receive – which is approximately 4-5%. We estimate that the current value of the compounds that Abbott is contributing to the transaction is about \$1 billion. During the four year investment period, Abbott expects to invest \$800 million on the compounds, in addition to our \$200 million. Based on these amounts, our investment is approximately 10% of the total invested dollars. Most pharmaceutical companies earn about a 50% pre-tax margin (excluding R&D expenses) on sales. On a net basis, then, our expected royalty should be about 5%.

7. The current proposed portfolio consists of (1) a mid Phase II compound with projected peak sales of \$700 million, (2) a late Phase II with peak sales of \$1.2 billion, (3) an early Phase III with peak sales of \$700 million, (4) an early Phase III with peak sales of \$700 million, (5) an early Phase II with peak sales of \$400 million, and (6) a basket of three cancer compounds currently in pre-clinical trials, each of which may have peak sales of \$400 million.

John Hancock will fund [\$50 million] per year for four years. Milestone payments of \$10 million will be paid for each compound that receives regulatory approval. Royalty rates will equal [8%] on the first \$400 million in sales, [4%] on the next \$600 million of sales, and [1%] on sales in excess of \$1 billion. Abbott would also like to build in a provision to limit royalties if our actual IRR exceeds a certain amount.

Based on this portfolio, and running our model 500 times, the probability of losing all of our money is about 1%. There is also about a 1% probability of just getting our money back (with no return). The average return is approximately 20% and tightly bound around that percentage. The maximum return is 25%. Looking at sensitivities to our assumptions, if the \$1.2 billion compound generated only \$600 million in revenues or if all compounds generated only 75% of projected sales, our IRR would be reduced by approximately 1-2%. Our probability of failure would not change.

It is important to note that the expected IRRs are over a long period of time (10-15 years). Assuming that we could sell our future royalty stream after the fifth year, our five-year IRR would be about 24% (and the maximum return would be about 35%).

A one-percent probability of total loss combined with a one-percent chance of not earning a return is approximately equivalent to a 30 basis point annual loss over five years – or a "Baa" credit rating. The expected return of 20% is attractive relative to the risk that we would be taking.

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Estimated Cash Flow
(\$ millions)

<u>Year</u>	<u>JH Cash Payments</u>	<u>Milestone Payments</u>	<u>Royalty Payments</u>	<u>Aggregate Cash Received</u>	<u>JH Net Cash Flow</u>
2000	(50)				(50)
2001	(50)				(50)
2002	(50)		6	6	(44)
2003	(50)		18	18	(32)
2004		30	35	65	65
2005			48	48	48
2006			58	58	58
2007			62	62	62
2008			65	65	65
2009			65	65	65
2010			66	66	66
2011			64	64	64
2012			61	61	61
2013			32	32	32
2014			14	14	14
TOTAL	(200)	30	594	624	424

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Accounting Structure

Anticipated Structure:

We would establish a trust to make the investment and issue one series of certificates backed by the royalty cash flows. Rating agency would rate the certificate to a minimum return (approximately 8 – 10%). In early years, when no cash flow is available, bond would accrete at this minimum return. When cash flow is available it first pays the current period return, then the accreted return, then pays down the bond. If certain targets are hit, some cash flow beyond the minimum return can be designated as excess interest and booked as income.

Balance sheet treatment: Bond, with an NAIC 2 or NAIC 3 rating. This requires we get a rating agency to rate the bond.

Income treatment: Current, fixed return of minimum rated yield. If deal is successful, excess income in later years.

Downside scenario: If the program is performing poorly, bond will be downgraded and ultimately rated category 6. Bond will be written down each period as necessary to reflect drop in value. This will spread the loss over several years and many quarters.

Issues:

1) **Can this be considered a bond?**

Many royalty streams have been securitized in this fashion. The David Bowie bond (bought by Prudential Insurance) is the most visible example, but other musical groups have sold off royalties in bond form and a drug royalty deal is currently being marketed. The SVO will consider it an Asset Backed Security if we get it rated by a reputable rating agency.

2) **Can we accrete income during the first few years when no cash flow is available?**

There are plenty of examples of accreting bonds. Corporate bonds can be issued on a zero coupon or pay-in-kind (PIK) basis. In the asset-backed arena, principal only strips allow accretion of income. A recent deal backed by film revenues was rated by Duff & Phelps to a minimum yield. This should allow the accretion of income.

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Alternative Structure:

If we either cannot get a rating agency comfortable rating this bond or E&Y will not buy off on the structure, we can create a RACERS trust. Our accountants and E&Y do agree that a RACERS structure meets the accounting rules (we spent lots of time exploring the possibility of placing our volatile BA assets in a RACERS trust), with the provision that a 3% equity portion be sold to a third party.. The idea behind a RACERS is to put a zero coupon bond and the contemplated investment in a trust. The zero coupon bond ensures the trust certificate can be rated by the SVO and hence booked as a bond. The RACERS would use structured note accounting, which requires all cash flow be booked as income. We'd create cash flow, and hence income, in the early years by including cash in the trust that can be distributed, according to preset rules, as income. We can dampen the volatility of the income in the later years by structuring a maximum coupon paid by the trust. There are several disadvantages of this structure. First, the cash and zero coupon bond drag down the economics. There are ways to mitigate this, but ultimately there is likely to be some drag. Second, structured notes can draw the attention of the rating agencies and security analysts. This could be viewed as a tool to manage earnings. While it is small relative to John Hancock's total assets, it is a large (ultimately \$200 million) transaction. Finally, we would need to find a buyer of the 3% equity. Most buyers would likely demand a very high return for this investment.

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D's Exhibit 817

RE: Abbott Labs

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From: Blewitt, Stephen [sblewitt@jhancock.com]
Sent: Monday, September 30, 2002 3:36 PM
To: Mangan, Deirdre
Subject: RE: Abbott Labs

<<abt-mod080102.xls>>
Deirdre,

This is the latest model that I have run. The expected returns are still in the low - mid teens but the risk of loss has increased from when we initially closed the transaction.

Steve.

-----Original Message-----

From: Mangan, Deirdre
Sent: Monday, September 23, 2002 6:04 PM
To: Blewitt, Stephen
Cc: Hartz, Scott
Subject: Abbott Labs

Hi Steve,

We spoke a few months ago about submitting cash flow projections for Abbott Labs on a quarterly basis. Since we are going to book 3Q income in the next week or so, is there an updated cash flow projection available? Also, what is the IRR currently expected on this investment? Thanks.

Deirdre

Deirdre Mangan
John Hancock Financial Services
Bond & Corporate Finance
(617) 572-5542



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Year 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

Size-2 0.05 0.1 0.15 0.2 0.25 0.3 0.35 0.4 0.45 0.5 0.55 0.6 0.65 0.7 0.75 0.8

Size-3 0.05 0.1 0.15 0.2 0.25 0.3 0.35 0.4 0.45 0.5 0.55 0.6 0.65 0.7 0.75 0.8

Size-4 0.05 0.1 0.15 0.2 0.25 0.3 0.35 0.4 0.45 0.5 0.55 0.6 0.65 0.7 0.75 0.8

Size-5 0.05 0.1 0.15 0.2 0.25 0.3 0.35 0.4 0.45 0.5 0.55 0.6 0.65 0.7 0.75 0.8

Year	Size-2	Size-3	Size-4	Size-5	CDM	BMV	End-of-life	Anticipation	Warranty	Challenges	TRP	ED	Drop-15
1	0.05	0.1	0.15	0.2	0.25	0.3	0.35	0.4	0.45	0.5	0.55	0.6	0.65
2	0.05	0.1	0.15	0.2	0.25	0.3	0.35	0.4	0.45	0.5	0.55	0.6	0.65
3	0.05	0.1	0.15	0.2	0.25	0.3	0.35	0.4	0.45	0.5	0.55	0.6	0.65
4	0.05	0.1	0.15	0.2	0.25	0.3	0.35	0.4	0.45	0.5	0.55	0.6	0.65
5	0.05	0.1	0.15	0.2	0.25	0.3	0.35	0.4	0.45	0.5	0.55	0.6	0.65
6	0.05	0.1	0.15	0.2	0.25	0.3	0.35	0.4	0.45	0.5	0.55	0.6	0.65
7	0.05	0.1	0.15	0.2	0.25	0.3	0.35	0.4	0.45	0.5	0.55	0.6	0.65
8	0.05	0.1	0.15	0.2	0.25	0.3	0.35	0.4	0.45	0.5	0.55	0.6	0.65
9	0.05	0.1	0.15	0.2	0.25	0.3	0.35	0.4	0.45	0.5	0.55	0.6	0.65
10	0.05	0.1	0.15	0.2	0.25	0.3	0.35	0.4	0.45	0.5	0.55	0.6	0.65
11	0.05	0.1	0.15	0.2	0.25	0.3	0.35	0.4	0.45	0.5	0.55	0.6	0.65
12	0.05	0.1	0.15	0.2	0.25	0.3	0.35	0.4	0.45	0.5	0.55	0.6	0.65
13	0.05	0.1	0.15	0.2	0.25	0.3	0.35	0.4	0.45	0.5	0.55	0.6	0.65
14	0.05	0.1	0.15	0.2	0.25	0.3	0.35	0.4	0.45	0.5	0.55	0.6	0.65
15	0.05	0.1	0.15	0.2	0.25	0.3	0.35	0.4	0.45	0.5	0.55	0.6	0.65

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122	130	135	140	145	150	155	160	165	170	175	180	185	190	195	200	205	210	215	220	225	230	235	240	245	250	255	260	265	270	275	280	285	290	295	300	305	310	315	320	325	330	335	340	345	350	355	360	365	370	375	380	385	390	395	400	405	410	415	420	425	430	435	440	445	450	455	460	465	470	475	480	485	490	495	500	505	510	515	520	525	530	535	540	545	550	555	560	565	570	575	580	585	590	595	600	605	610	615	620	625	630	635	640	645	650	655	660	665	670	675	680	685	690	695	700	705	710	715	720	725	730	735	740	745	750	755	760	765	770	775	780	785	790	795	800	805	810	815	820	825	830	835	840	845	850	855	860	865	870	875	880	885	890	895	900	905	910	915	920	925	930	935	940	945	950	955	960	965	970	975	980	985	990	995	1000
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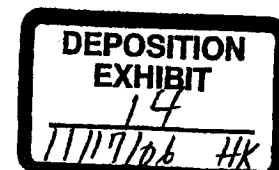
Blewitt 11/17/2006 Deposition Exhibit 14

D's Exhibit

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From: Hartz, Scott [shartz@jhancock.com]
Sent: Tuesday, September 19, 2000 3:56 PM
To: Blewitt, Stephen
Subject: Abbott

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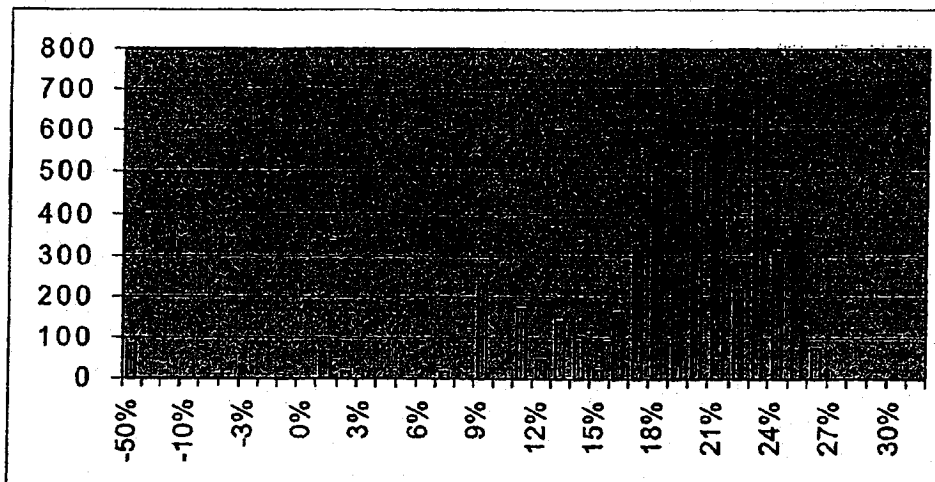
Modeling the expect returns and expected loss

We've modeled the returns on this portfolio of drugs using a Monte Carlo simulation and assuming their probabilities of success are independent. Let's start, however, with some simplifying assumptions to get better intuition on the risk of the transaction. Assume the probability of success of each drug is 50%, the drugs are independent, and that the success of any one drug will give us a return of 8% on the transaction. In this case, we will lose all our investment only if all the drugs fail. The probability of this is $(1/2)^6 = 1.6\%$. Spread over a 4 year duration, the expected annual loss is 40 bps which implies the same risk as a Baa3 bond. If only one drug is successful, which should occur with the probability of $(1/2)^6 * (6!/1!) = 6/64 = 9.4\%$. In this case, the return, in our simplified model, is 8% on the entire investment. This is approximately 200 bps over Treasuries and a bit of a substandard return on a Baa3 investment. If 2 or more drugs are successful, the structure caps the investment's return at approximately 20%. The probability of this is $1 - 1.6\% - 9.4\% = 89\%$. Hence, the weighted average return on the investment is $1.6\%*0 + 9.4\%*8\% + 89\%*20\% = 18.5\%$.

This example is obviously a simplification. Each of the six drugs has a different probability of success depending upon how far along each is in the approval process. Most of them have a greater than 50% chance of success given most are in phase 3. Also, the revenue profile and hence the royalty stream on each drug is different. To reflect the different probabilities and different revenue streams we've used a 5,000 scenario Monte Carlo simulation. The probability of each drug's success takes the appropriate probability calculated in DiMasi's study and reduces it by 10%. While we believe Abbott's track record is at least as good as average (Abbott's success rate on Phase III drugs is xx% vs the DiMasi study success rate of 63%), the haircut introduces a reasonable level of conservatism. The expected revenue streams used in the simulation are different for each drug and they have been reduced by approximately 25% from Abbott's estimates.

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The simulation gives us the following return profile:

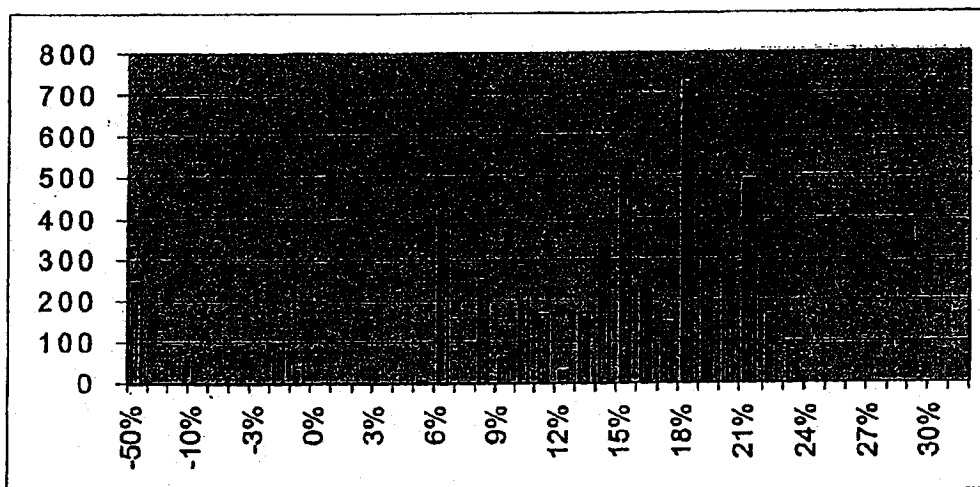


The average return in this distribution is 17.2%. The bar on the far left shows the probability of no successful drugs and represents 1.7% of the scenarios. There are also a number of scenarios that produce a return of approximately 1% – 2%. These scenarios arise when only a cancer drug is successful. The cancer drugs have lower anticipated revenues, as well as lower probabilities of success, than any of the other drugs. This represents about 1.6% of the scenarios. All other scenarios give us a return of 9% or more. Assuming a 1-2% return represents a loss of half our original investment, the expected loss in this simulation is $1.7\% + \frac{1}{2} \times 1.6\% = 2.5\%$. Spread over a 4 year duration, the annual expected loss is 62 bps which corresponds to the risk of a Ba1 rated bond.

We also ran a downside simulation, where the probabilities of success are discounted by 25% from the DiMasi study and the expected revenues are discounted by 25% from our base case.

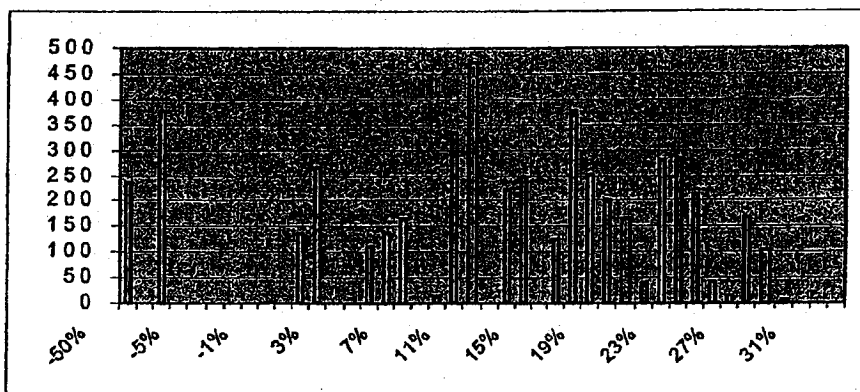
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This gives us the following downside return pattern



The average return in this downside scenario is 9.3%. The probability that no drugs are successful rises dramatically to 4.9%. The low return scenario is now even lower (-2%) and also has a higher probability (2.7%). So, the annual expected loss is $(4.9\% + .6 \times 2.7\%) / 4 = 165$ bps which corresponds to the risk of a B1 rated bond. The average return is also substandard for a B1 rated bond.

The royalty structure of our transaction is designed to limit both the downside and the upside of this investment. As previously described, the appropriate unstructured royalty on an investment in this drug portfolio would be approximately 5%. When we run the model with this flat royalty percentage for our downside case, we get the following pattern of returns:



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As expected, the return pattern is more dispersed with more downside scenarios as well as more upside scenarios. The average return is only 7%, below the average return with our royalty structure and well below a market clearing return for this sort of risk, which indicates that this must truly be a downside scenario. Using the same methodology as above, the annual expected loss is about 4%, implying CCC or greater risk.

Expected accounting treatment

There have been a number of royalty streams sold off in the form of an asset backed security. The most visible example is the David Bowie bond bought by Prudential Insurance. While this royalty transaction has many similar features, it is also different in that it is funded over a four year period and no royalties are currently being generated. We believe that at the end of the funding period we will be able to obtain a rating on the transaction that will allow it to be placed on our bond schedule. In the meantime, it will appear on our BA schedule. We plan to account for this investment using the guidance in ruling 9920 of the Emerging Issues Task Force. Ruling 9920 requires that each year, or more often if the assumptions change, we will project the expected cash flows and book income equal to the internal rate of return. Any changes to the expected cash flows will be spread over the remaining life of the transaction through the newly calculated IRR. This is the same method we use to account for our CBO equity investments. Initially we expect the IRR on this investment to be approximately 17%.

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Blewitt 11/17/2006 Deposition Exhibit 15

D's Exhibit 569

JOHN HANCOCK LIFE INSURANCE COMPANY

Bond & Corporate Finance Group

Report Date: September 21, 2000

Recommendation to B.I.C.: September 21, 2000

Report to C.O.F.: October 10, 2000

Private

Purchase Recommendation

GBSA	\$110 mm	GBRE	\$20 mm
CLDBLK	\$ 30 mm	OPNBLK	\$ 4 mm
PENPAR	\$ 9 mm	IQA	\$15 mm
LOLA	\$ 8 mm	GRPLTC	\$ 4 mm
RETLTC	\$ 7 mm	GRPINS	\$ 2 mm
BOLI	\$ 4 mm	UNIVRSL	\$ 5 mm
IPLI	\$ 2 mm		

ABBOTT LABORATORIES ("Non-Recourse")
North Chicago, IL

We are recommending a \$220 million commitment to fund research and development expenses for a basket of eight pharmaceutical products ("Program Compounds") currently under development by Abbott Laboratories ("Abbott"). The commitment will be funded over a four-year period and will be subject to Abbott Laboratories co-funding at least two times our commitment on the Program Compounds during the same period of time. In return for the research and development payments, Abbott will agree to pay John Hancock milestone and royalty payments for each Compound that reaches regulatory approval and has commercial sales. The purpose of this transaction is to allow Abbott to increase its expenditures on research and development (to generate future growth in revenues and earnings) but to maintain current earnings.

The Program Compounds are a diversified pool of eight compounds owned by Abbott Laboratories and in various stages of clinical development. The Compounds are divided between late-stage and early-stage, including three Phase III, two Phase II, one Phase I, and two pre-clinical compounds. The Compounds are well-diversified from a disease/stage perspective, although several compounds are focused on the cancer market. Even within the cancer market, though, each of the Compounds targets either different types of cancer, or different mechanisms of action. Based on their current stage of development and projected sales levels, we think that the Program Compounds have a current market value of approximately \$1 billion. During the term of the transaction, we expect Abbott to spend approximately \$1.3 billion (including John Hancock's commitment) on further research and development for the Compounds.

Through the management fee and anticipated milestone payments, we expect to generate at least an 8% return on investment during the initial four years of the transaction. The average return is approximately 17.5% over 15 years. If we assume that we could sell our future royalty stream after the fifth year, our average five-year IRR would be about 22%.

The transaction is structured to provide a one-to two percent probability of total loss combined with a one-to-two percent chance of not earning a return. This is approximately equivalent to a 60 basis point annual loss over five years – or a "Ba1" credit rating. The expected return of 17.50% is attractive relative to the risk of the transaction.

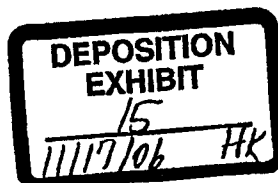
Report Authors:

Stephen J. Blewitt, Managing Director

Scott Hartz, Managing Director

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JH 001185



JOHN HANCOCK LIFE INSURANCE COMPANY
Bond & Corporate Finance Group

Report Date: September 21, 2000
 Recommendation to B.I.C.: September 21, 2000
 Report to C.O.F.: October 10, 2000

Private

Purchase Recommendation

GBSA	\$110 mm	GBRE	\$20 mm
CLDBLK	\$ 30 mm	OPNBLK	\$ 4 mm
PENPAR	\$ 9 mm	IQA	\$15 mm
LOLA	\$ 8 mm	GRPLTC	\$ 4 mm
RETLTC	\$ 7 mm	GRPINS	\$ 2 mm
BOLI	\$ 4 mm	UNIVRSL	\$ 5 mm
IPLI	\$ 2 mm		

ISSUER: Abbott Laboratories (Non-recourse)

ISSUE: \$220 million Research and Development Funding Commitment

ISSUE RATING: JH: Ba2

BROKER: Direct

SIC CODE: 2830 - Drugs

USE OF PROCEEDS: To fund the research and development of eight pharmaceutical products ("Program Compounds") owned Abbott, and to pre-fund management fees and projected milestone payments, and to pay for transaction and administrative expenses.

STATE OF INC.: Illinois

CIRCLE DATE: August 31, 2000

TAKEDOWN DATE: Upon completion of documentation

PROGRAM PAYMENTS: During the Program Term, and in consideration of Abbott's continuing performance of the research services under the Research Plan, John Hancock shall make program payments to Abbott in the installments and on the dates set forth below:

<u>Date</u>	<u>Payment</u>
[December,] 2000	\$50,000,000
[December,] 2001	\$55,000,000
[December,] 2002	\$55,000,000
[December,] 2003	\$60,000,000

"Program Term" means the period commencing [December,] 2000 Date and ending on [December,] 2004.

"Research Plan" means a detailed statement of Abbott's objectives, activities, timetable, FTE allocation and budget for the Program Compounds during the Program Compounds during each year of the Program Term. Abbott shall provide an updated research plan on an annual basis.

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Abbott Obligations

During the Program Term, Abbott agrees to spend, in addition to the funds provided by John Hancock, (i) a minimum of \$50 million per year and (ii) a minimum of \$400 million in aggregate on research and development programs associated with the Program Compounds.

Program Payment Termination Provisions

Unless the parties agree upon an alternative arrangement, if Abbott (a) ceases research and development of all Program Compounds or (b) does not spend at least the amount provided by John Hancock in a year on the research and development of Program Compounds or (c) does not reasonably demonstrate, in its updated research plan, its intent to spend a minimum of the amount provided by John Hancock in the next year of the Program Term or \$620 million (including the funds provided by John Hancock) in aggregate, John Hancock's obligation to continue to make Program Payments shall cease. In the case of either (a) or (b) above, Abbott will refund to John Hancock \$55 million minus half of the amount actually spent by Abbott during that year.

Carryover Provisions

If Abbott spends the amount provided by John Hancock in a year but does not spend at least an additional \$50 million, Abbott agrees to spend the difference between \$105 million and the amount actually spent in that year (the "Carryover Amount") in the subsequent year. John Hancock's obligation to make Program Payments in the subsequent year, if any, will be deferred until that time that Abbott demonstrates that it has spent the Carryover Amount in that subsequent year.

If Abbott spends the amount provided by John Hancock in each year and at least an additional \$50 million in each year, but does not spend a minimum of \$620 million (including the funds provided by John Hancock) in aggregate on research and development programs associated with the Program Compounds during the Program Term, Abbott agrees to spend the difference between \$620 million and the aggregate amount actually spent (the "Aggregate Carryover Amount") in the subsequent year. If Abbott does not spend the Aggregate Carryover Amount in the subsequent year, Abbott will refund to John Hancock one-third of the difference between (a) \$620 million and the amount actually spent.

MANAGEMENT FEE:

Commencing with the first anniversary of the Program Term and continuing until the end of the Program Term, Abbott shall pay John Hancock a fee in the amount of \$2.0 million per year as compensation for monitoring Abbott's continuing performance of its research services under the Research Plan, the development of the Program Compounds, and to reimburse John Hancock for its ongoing fees and expenses incurred in connection with this transaction.

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MILESTONE PAYMENTS:

Abbott shall make the following payments for each compound for each milestone achieved after commencement of the Program Term:

Upon the allowance of an IND application by the FDA: \$1,000,000

Upon the initiation of a Phase I Clinical Trial: \$2,000,000

Upon the initiation of a Phase II Clinical Trial: \$3,000,000

Upon the initiation of a Phase III Clinical Trial: \$4,000,000

Upon the filing of an NDA application with the FDA: \$5,000,000

Upon NDA Approval by the FDA: \$10,000,000

Aggregate milestone payments paid by Abbott, for all "non-NDA Approval" milestones achieved will not exceed \$12 million. Aggregate milestone payments paid by Abbott, for all "NDA Approval" milestones achieved will not exceed \$40 million. In addition, "non-NDA Approval" milestone payments will not exceed \$3 million in the first year or \$6 million in the second year after commencement of the Program Term.

ROYALTY PAYMENTS:

Abbott shall pay to John Hancock royalties on aggregate worldwide Net Sales of Program Compounds (all Program Compound sales combined) at the following rates:

<u>Annualized Net Sales of Aggregate Program Compounds</u>	<u>Royalty Rate</u>
\$0 to \$400 million	8%
>\$400 million and ≤ \$1,000 million	4%
>\$1,000 million and ≤ \$2,000 million	1%
>\$2,000 million	½%

The obligation to make royalty payments shall commence on the date of the First Commercial Sale of a Program Compound and shall continue with respect to Net Sales of such Program Compound for a period of ten years. Notwithstanding the foregoing, the obligation to make royalty payments on all Program Compounds shall not begin until after the second anniversary of the Program Term and shall cease at December 31, 2014.

HANCOCK HOLDINGS:

None

RELATED HOLDINGS:

\$29,000,000 Preferred Stock of Metabolex Corporation with Put Rights to Abbott

ANALYST:

Stephen J. Blewitt

HOUSE COUNSEL:

Amy Weed

SPECIAL COUNSEL:

Choate, Hall & Stewart

Report Authors:

Stephen J. Blewitt, Managing Director

Scott Hartz, Managing Director

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TRANSACTION OVERVIEW

In December 1999, John Hancock approached Abbott Laboratories, Inc. ("Abbott") with a financial structure that would allow Abbott to increase its research and development expenditures (to generate future growth in revenues and earnings) but maintain current earnings. The structure, which is presented in this investment recommendation, uses probability analysis on a diversified portfolio of drug compounds, supplemented by scientific due diligence, to achieve an investment grade or near investment grade risk for John Hancock and allow us to generate equity returns in the form of current (royalty) income for a sizeable investment.

This transaction requires John Hancock to commit to funding an average of \$55 million per year for a period of four years to fund the research and development of a diversified pool of eight compounds ("Program Compounds") owned by Abbott Laboratories. We have valued the Program Compounds today at approximately \$1 billion (or five times our investment) and we expect Abbott to spend over seven times our investment during the term of the transaction (during the initial four year period, Abbott will commit two times John Hancock's investment for those compounds). In return for the research and development payments, Abbott will agree to pay John Hancock milestone and royalty payments for each compound that reaches regulatory approval and has commercial sales as well as a management fee.

Through the management fee and anticipated milestone payments, we expect to generate at least an 8% return on investment during the initial four years of the transaction. The average return is approximately 17.5% over 15 years. If we assume that we could sell our future royalty stream after the fifth year, our average five-year IRR would be about 22%.

This transaction is consistent with our approach to investing in the pharmaceutical sector. During the past five years, we have invested approximately \$460 million in pharmaceutical companies. Approximately \$300 million is invested in straight debt for investment grade companies. The remaining \$160 million is invested in equity-oriented transactions where we think that there are opportunities for exceptional value. Although we have invested in a couple of straight equity transactions, approximately \$150 million of the \$160 million is invested in transactions where our downside risk is protected by either "put rights" to investment grade companies (Metabolex, Nexell), senior note positions (Celgene, Cubist), or structured portfolios of drug candidates (Pharma Marketing). In these transactions, we maintain sizable up-side potential but reduce the probability of losing all of our invested capital through the structure of our investment.

In summary, we think that the structure of this transaction, which has us co-investing with Abbott Laboratories in a diversified pool of their drug compounds, which we believe have a current value of approximately \$1 billion, over a four year period, during which time Abbott has to meet co-investment obligations and the drug compounds need to continue to progress in development, allows us to generate substantial current income that exceeds the risk associated with the transaction. Although we are committing to a substantial \$220 million investment, our expectation is that our net investment will not exceed \$176 million (due to management fees, milestone payments, and royalty payments).

The transaction is structured to provide a one-to-two percent probability of total loss combined with a one-to-two percent chance of not earning a return. This is approximately equivalent to a 60 basis point annual loss over five years – or a "Ba1" credit rating. The expected return of 17.50% is attractive relative to the risk of the transaction.

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Expected accounting treatment

There have been a number of royalty streams sold off in the form of an asset backed security. The most visible example is the David Bowie bond bought by Prudential Insurance. While this royalty transaction has many similar features, it is also different in that it is funded over a four year period and no royalties are currently being generated. We believe that at the end of the funding period we will be able to obtain a rating on the transaction that will allow it to be placed on our bond schedule. In the meantime, it will appear on our BA schedule. We plan to account for this investment using the guidance in ruling 9920 of the Emerging Issues Task Force. Ruling 9920 requires that each year, or more often if the assumptions change, we will project the expected cash flows and book income equal to the internal rate of return. Any changes to the expected cash flows will be spread over the remaining life of the transaction through the newly calculated IRR. This is the same method we use to account for our CBO equity investments. Initially we expect the IRR on this investment to be approximately 17%.

OVERVIEW OF ABBOTT LABORATORIES

Abbott Laboratories is engaged in the discovery, development, manufacture and sale of healthcare products and services. Abbott has five reporting revenue segments: Pharmaceutical Products, Diagnostic Products, Hospital Products, Ross Products and International. It also has a 50%-owned joint venture, TAP Holdings, Inc. The principal products of the Pharmaceutical Products Division are the anti-infectives clarithromycin, agents for the treatment of epilepsy, migraine and bipolar disorder, including Depakote; urology products, including Flomax for the treatment of BPH; Abbokinase, a thrombolytic drug, and the anti-viral Norvir, a protease inhibitor for the treatment of HIV. The Diagnostic Division's products include diagnostic systems and tests for blood banks, hospitals, and commercial laboratories. The Hospital Products Division sells drugs and drug delivery systems, intensive care products, cardiovascular products, renal products, and intravenous and irrigation solutions. The Ross Products Division sells adult and pediatric nutritional products such as Similac, Isomil, Ensure, Glucerna, and Pedialyte. The International Division's products include a broad line of hospital, pharmaceutical, and adult and pediatric nutritional products marketed and primarily manufactured outside the United States.

For the year ended December 31, 1999, Abbott had revenues and net income of approximately \$13.2 billion and \$2.4 billion, respectively. Abbott is rated "Aaa" by the major rating agencies. As of September 18, 2000, Abbott had a market capitalization of approximately \$74 billion.

ABBOTT LABORATORIES
CONSOLIDATED STATEMENT OF OPERATIONS

(\$ in thousands)	Fiscal Years Ended December 31,		
	1997	1998	1999
Net Sales	\$11,889	\$12,512	\$13,177
Costs and expenses:			
Cost of goods sold	5,052	5,406	5,977
Selling, general and administrative	2,695	2,759	2,857
Research and development	1,307	1,228	1,193
Total operating expenses	9,055	9,395	10,028
Operating income	2,833	3,117	3,149
Net interest expense	85	102	81
Other charges	(186)	(223)	(330)
Income (loss) before taxation	2,934	3,241	3,396
Net income (loss)	\$2,079	\$2,331	\$2,445

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TRANSACTION DETAILS**A. PROGRAM COMPOUNDS**

There are eight Program Compounds included in this transaction. The Compounds are divided between late-stage and early-stage, including three Phase III, two Phase II, one Phase I, and two pre-clinical compounds. The Compounds are well-diversified from a disease/stage perspective, although several compounds are focused on the cancer market. Even within the cancer market, each of the Compounds targets either different types of cancer, or different mechanisms of action. The products are described more fully below:

Product	Indication	JH Est. Peak Sales (\$mm)	Stage of Development
ABT 980 (BPH)	Treatment of benign prostatic hyperplasia	600	Development Stage: Phase III Expected Launch: 2003
ABT 773 (Ketolide)	Antibiotic	800	Development Stage: Phase III Expected Launch: 2003
ABT 627 (Endothelin)	Treatment of prostate cancer	700	Development Stage: Phase III Expected Launch: 2003
ABT 594 (CCM)	Non-opioid, non-NSAID analgesic	700	Development Stage: Phase II Expected Launch: 2004
E7010 (Anti-mitotic)	Cancer	500	Development Stage: Phase I/II Expected Launch: 2004
MMPI	Cancer	400	Development Stage: Phase I Expected Launch: 2005
FTI	Cancer	400	Development Stage: Pre-clinical Expected Launch: 2005
Urokinase	Cancer	400	Development Stage: Pre-clinical Expected Launch: 2005

B. SUMMARY OF ESTIMATED SALES

In estimating sales projections by Program Compound, we started with determining the expected peak sales for each Compound. We have conservatively estimated the peak sales for each Compound based on our evaluation of market potential for each Compound relative to results for other similar drugs and expected competitive drugs. In general, our level of peak sales is significantly below Abbott's level (approximately 25%) -- but, because of the tiered royalty structure, the relative economic difference is not significant. Our next step was to use a Sales Curve calculated by Lehman Brothers that projects ramp-up and ramp-down for sizeable drugs. In general, this Curve shows peak sales being reached seven years after launch. Ramp-up is achieved by 5% of peak sales in the first year, followed by 13%, 25%, 50%, 80%, and 90%. Peak sales are maintained for three years, and the compound then achieves 85% of peak, 75%, 70%, etc. As expected, every compound has its own unique curve, and Lehman's is only a general estimate. We have compared the curve to IMS data of prescription sales for individual compounds in a number of drug classes from 1981 to 1999. Our analysis indicates that Lehman's curve is a good fit and we have applied that curve. The table below shows projected sales for each Compound and probability-weighted estimated sales for the entire portfolio of Compounds.

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ESTIMATED SALES PROJECTION

(S in millions) Name	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
<u>Projected Sales</u>												
ABT-980 (BPH)	30	78	180	300	480	540	600	600	600	510	0	0
ABT-627 (Endothelin)	35	91	210	350	560	630	700	700	700	595	0	0
ABT-773 (Ketolide)	40	104	240	400	640	720	800	800	800	680	0	0
ABT-594		35	91	210	350	560	630	700	700	700	595	0
E7010 (Anti-mitotic)		20	52	120	200	320	360	400	400	400	340	0
MMPI												
FTI			20	52	120	200	320	360	400	400	400	340
Urokinase												
Total Projected Sales	105	328	793	1,432	2,350	2,970	3,410	3,560	3,600	3,285	1,335	340
Estimated Sales	76	225	531	932	1,510	1,837	2,068	2,129	2,138	1,908	530	74

For projection purposes, MMPI, FTI and Urokinase are considered as one Program Compound with a Phase I probability of success.

C. MILESTONE AND ROYALTY PAYMENTS

Under the Agreement, Abbott agrees to pay to John Hancock royalties on aggregate worldwide Net Sales of Program Compounds (all Program Compound sales combined) at the following rates: 8% on the first \$400 million, 4% on the next \$600 million, 1% on the next \$1 billion, and ½% on any amount above \$2 billion. Abbott's obligation to make royalty payments will commence on the date of the First Commercial Sale of a Program Compound and will continue with respect to Net Sales of such Program Compound for a period of ten years. Notwithstanding the foregoing, the obligation to make royalty payments on all Program Compounds will not begin until after the second anniversary of the Program Term and will cease at December 31, 2014. Based on our estimate of aggregate sales for the Program Compounds, we expect the following amounts of Royalty Payments:

(S in millions) Name	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Estimated Sales	76	225	531	932	1,510	1,837	2,068	2,129	2,138	1,908	530	74
<u>Royalty Payments</u>												
8.0% on \$400 mm	6	18	32	32	32	32	32	32	32	32	32	6
4.0% on \$400-\$1,000	0	0	5	21	24	24	24	24	24	24	5	0
1.0% on \$1,000 - \$2,0	0	0	0	0	5	8	10	10	10	9	0	0
0.5% on \$2,000+	0	0	0	0	0	0	0	1	1	0	0	0
Total Royalty Pymts	6	18	37	53	61	64	66	67	67	65	37	6
(average percent)	8.0%	7.0%	5.7%	4.0%	3.5%	3.2%	3.1%	3.1%	3.1%	3.4%	7.0%	8.0%

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In addition to the Royalty Payments, Abbott will be obligated to make payments to John Hancock for certain milestones achieved for each compound. The milestone and the corresponding payments are described below. Aggregate milestone payments paid by Abbott, for all "non-NDA Approval" milestones achieved will not exceed \$12 million. Aggregate milestone payments paid by Abbott, for all "NDA Approval" milestones achieved will not exceed \$40 million. In addition, "non-NDA Approval" milestone payments will not exceed \$3 million in the first year or \$6 million in the second year after commencement of the Program Term.

Upon the allowance of an IND application by the FDA:	\$ 1,000,000
Upon the initiation of a Phase I Clinical Trial:	\$ 2,000,000
Upon the initiation of a Phase II Clinical Trial:	\$ 3,000,000
Upon the initiation of a Phase III Clinical Trial:	\$ 4,000,000
Upon the filing of an NDA application with the FDA:	\$ 5,000,000
Upon NDA Approval by the FDA:	\$10,000,000

Based on the number of Compounds in the Program and the number of potential milestones for each Compound, we expect to receive \$3 million, \$6 million, and \$3 million of "non-NDA" milestone payments in the first three years. In addition, we expect to receive \$20 million in 2003 and \$10 million in 2004 for NDA Approvals.

In aggregate, the management fees, milestone payments, and royalty payments are approximately 4.3% of Net Sales of the Program Compounds. The tiered structure of the royalty payments and the up-front milestone payments, however, substantially reduce the downside of the transaction in the event that aggregate net sales are below our expected case. For example, if sales were 25% below projected, a flat 4.3% royalty rate would yield a loss ratio of 4% versus a loss ratio of 1.6% when using the tiered structure.

D. ESTIMATED CASH FLOW PROJECTIONS

Based on the calculations of Net Sales and Milestone and Royalty Payments, which are described above, the Cash Flow of this transaction is as presented in the table below. In particular, the structure provides for adequate current income during the first two-to-three years when there are no approved Compounds, and substantial current royalty income based on Net Sales of approved Compounds.

(\$ in millions)	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Name															
JH Cash Payments	(50)	(55)	(55)	(60)											
Management Fee	0	2	2	2	2										
Milestone Payments	0	3	6	23	10										
Royalty Payments	0	0	0	6	18	37	53	61	64	66	67	67	65	37	6
Aggregate Cash Rev'd	0	5	8	31	30	37	53	61	64	66	67	67	65	37	6
JH Net Cash Flow	(50)	(50)	(47)	(29)	30	37	53	61	64	66	67	67	65	37	6

The projected bond equivalent yield for this transaction is approximately 17.5% and the cash to invested capital ratio is 2.7 times.

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E. SUMMARY BUDGET

Abbott will be using the funds from this transaction to invest in the research and development of a specific pool of drug compounds, and to pre-fund management fees and projected milestone payments. These funds will be part of a total investment by Abbott of approximately \$1,300 million during the next ten years and \$900 million over the four year co-investment period. In addition, based on the stage of the development of the Program Compounds, and their expected sales, we have valued the Program Compounds today at approximately \$1 billion. Our valuation is based on our knowledge of "out-licensing" transactions between pharmaceutical companies and the milestone and royalty structure that is market for different stage compounds. In general, out-license transactions provide the licensor with a royalty rate of between 10% (for Phase I compounds) to 30% (for Phase III compounds) and a 50/50 split for compounds that have completed Phase III. Using an average 20% royalty applied to estimated sales and a 15% discount rate, we arrived at a value of approximately \$1 billion.

The following table summarizes the Company's expected budget during the Program Period:

(\$ in millions)	Name	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	Total
<u>Projected Budget</u>													
	ABT-980 (BPH)	80	40	30	30	20	20	10	10	10	10	10	270
	ABT-627 (Endothelin)	40	40	20	20	20	20	20	10	10	10	10	220
	ABT-773 (Ketolide)	135	60	42	42	27	27	27	17	17	17	17	428
	ABT-594	70	80	30	20	20	20	20	10	10	10	10	310
	E7010 (Anti-mitotic)	20	30	35	20	30	10	10	5	5	5	5	175
	MMPI	20	30	35	20	23	15	15	5	5	5	5	178
		5	10	37	17	15	15	5	5	5	5	5	124
	kinase	15	25	35	33	15	15	5	5	5	5	5	163
	Total Projected Budget	385	315	264	202	170	142	112	77	67	67	67	1,868
<u>Estimated Budget</u>													
		327	250	201	134	90	81	66	45	40	40	40	1,314

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JH 001194

TRANSACTION ANALYSIS

The structure of this transaction (which includes a diversified pool of eight Abbott compounds, and a tiered royalty structure) offers a substantial likelihood that we will receive a long-term bond equivalent yield of approximately 17.5% which is substantially greater than the inherent risk of the transaction.

Expected Return.

Methodology

Determining the fair economics of the proposed transaction is highly dependent upon the number of compounds included, the characteristics of the compounds (i.e. status of development, potential sales), the structure of the royalty rates, and an estimation of what is a fair return. To help us answer these questions, we have taken several steps. First, we have researched industry standards for likelihood of success and probable sales curves for compounds in different stages of development. Second, we have developed a spreadsheet model that calculates the rate of return for a chosen portfolio and have developed a minimum number of compounds and associated milestone/royalty payments to provide us with returns that adequately compensate us for the risk we are taking. Third, we have tried to determine what rate of return the capital markets would require for the level of risk that we are willing to take.

The Program Compounds consist of five of Abbott's late-stage development compounds and a basket of three pre-clinical cancer compounds. The late-stage compounds range from mid-Phase II to starting Phase-III. Peak annual sales for these compounds range from \$400 million to \$800 million. With the exception of the "cancer basket", the compounds are independent of each other. Our due diligence provided us with results consistent with Abbott's representations and expectations for the Program Compounds, although we have scaled back sales projections significantly.

Our scientific and market diligence for the portfolio of compounds consisted on a number of steps. As a first step, we received internal scientific and business write-ups from Abbott for each Program Compound. The material provided by Abbott demonstrated the scientific rationale for the compounds, results of clinical trials, and a competitive analysis. Through financial reports, we searched for all references to Abbott's compounds and all references to competitive compounds in the same class or same disease category. We used this information to evaluate the potential size of markets for the Program Compounds and their competitive landscape. We engaged Dr. Lynn Klotz to search the major drug and medical databases for scientific reports on the Program Compounds and competitive compounds in the same class or same disease category. We used this information to evaluate, from a scientific perspective, what research scientists had discovered about the Program Compounds from an efficacy and safety perspective. We also used this information to identify potential experts to contact for additional questions. Finally, Dr. Klotz contacted the experts on a non-disclosure basis (not revealing that we were looking at Abbott compounds) and asked the experts to assess the Program Compounds and any potential competitive products from an efficacy and market potential perspective. In summary, none of our diligence revealed any information that was materially different than what Abbott had provided to us.

Dr. Lynn Klotz is a former professor of Biochemistry and Molecular Biology at Harvard University and a former officer of two biotechnology companies, BioTechnica and Codon. Dr. Klotz is currently an independent consultant. His most recent assignment was as a member of a four-person team consulting with the President of Mississippi State University to provide a strategic plan for their Life Sciences Institute.

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Probabilities of Success

Based on the development stage of each compound, we assigned probabilities of success ("regulatory approval") and time to success for each compound. Our probabilities of success come from a 1995 study by Dr. Joseph A. DiMasi at the Tufts Center for the Study of Drug Development, and were modified based on our specific knowledge of the Program Compounds. Dr. DiMasi's study is generally accepted by the pharmaceutical industry as an accurate assessment of the probability of success and of the time and costs associated with drug development. Dr. DiMasi looked at a random sample of 93 compounds in four broad disease categories from 12 pharmaceutical companies that were first tested in humans between 1970 and 1982.

Dr. DiMasi's results are summarized below:

PROBABILITY OF SUCCESS

Entering Phase	NSAID	Cardio-vascular	Anti-infective	Neuro-pharm	All
I	22%	26%	30%	20%	23%
II	30%	41%	38%	22%	31%
III	71%	72%	77%	51%	63%

Dr. DiMasi calculated the average time to approval as 8.75 years for compounds entering Phase I, 7.5 years for compounds entering Phase II, and 5.5 years for compounds entering Phase III. Embedded in these times was an approximately 30-month review process by the FDA. Due to legislative and process changes, the average FDA review time is now approximately 12 months. A revised timeframe for approval (which was been published by TCSDD in 1999), based on accelerated review by the FDA, and quicker processes within the pharmaceutical companies, is 6.0 years for Phase I, 5.0 years for Phase II, and 3.0 years for Phase III.

Sales Estimates

In estimating sales projections by Program Compound, we started with determining the expected peak sales for each Compound. We have conservatively estimated the peak sales for each Compound based on our evaluation of market potential for each Compound relative to results for other similar drugs and expected competitive drugs. In general, our level of peak sales is significantly below Abbott's level (approximately 25%) -- but, because of the tiered royalty structure, the relative economic difference is not significant. Our next step was to use a Sales Curve calculated by Lehman Brothers that projects ramp-up and ramp-down for sizeable drugs. In general, this Curve shows peak sales being reached seven years after launch. Ramp-up is achieved by 5% of peak sales in the first year, followed by 13%, 25%, 50%, 80%, and 90%. Peak sales are maintained for three years, and the compound then achieves 85% of peak, 75%, 70%, etc. As expected, every compound has its own unique curve, and Lehman's is only a general estimate. We have compared the curve to IMS data of prescription sales for individual compounds in a number of drug classes from 1981 to 1999. Our analysis indicates that Lehman's curve is a good fit and we have applied that curve. The table below shows projected sales for each Compound and probability-weighted estimated sales for the entire portfolio of Compounds.

Financial Model and Results

We've modeled the returns on this portfolio of drugs using a Monte Carlo simulation and assuming their probabilities of success are independent. Let's start, however, with some simplifying assumptions to get better intuition on the risk of the transaction. Assume the probability of success of each drug is 50%, the drugs are independent, and that the success of any one drug will give us a return of 8% on the transaction. In this case, we will lose all our investment only if all the drugs fail. The probability of this is $(1/2)^6 = 1.6\%$. Spread over a 4 year duration, the expected annual loss is 40 basis points which implies the same risk as a Baa3 bond. If only one drug is successful, which should occur with the probability of $(1/2)^6 * (6/1!) = 6/64 = 9.4\%$, the return, in our simplified model, is 8% on the entire investment. This is approximately 200 basis points over Treasuries. If two or more drugs are successful, the structure caps the investment's return at

approximately 20%. The probability of this is $100\% - 1.6\% - 9.4\% = 89\%$. Hence, the weighted average return on the investment is $1.6\% \cdot 0 + 9.4\% \cdot 8\% + 89\% \cdot 20\% = 18.5\%$.

This example is obviously a simplification. Each of the drugs has a different probability of success, depending upon how far along each is in the approval process, and a different revenue profile. To reflect the different probabilities and different revenue streams, we developed a spreadsheet model that incorporates multiple drug compounds (and their specific probability of success, time to launch, and expected sales pattern) and a variable milestone/royalty structure. We then ran the spreadsheet model 500 times to provide us a range of outcomes as well as the expected results for returns and losses.

In our base case, we have made the following assumptions:

Product	Phase	JH Probability Of Approval	Launch	JH Peak Sales
BPH	Phase III	65%	2003	\$600 mm
Ketolide	Phase III	70%	2003	\$800 mm
Endothelin	Phase III	70%	2003	\$700 mm
CCM	Phase II	50%	2004	\$700 mm
Antimitotic	Phase I/II	40%	2004	\$500 mm
MMPI	Phase I	10%	2005	\$400 mm
FTI	PC	10%	2005	\$400 mm
Urokinase	PC	10%	2005	\$400 mm

... and calculated the average bond equivalent yield of this scenario to be approximately 17.3%. It is important to note that the expected IRRs are over a long period of time (15 years). Assuming that we could sell our future royalty stream after the fifth year, our five-year IRR would be about 22%.

Analysis of Return

The last step of our analysis was to determine what a fair economic return for this transaction should be. We have benchmarked this transactions in a number of ways, such as: R&D vehicles for pre-clinical compounds were sold with expected IRRs (over a three-to-five year period) of approximately 40%; Hambrecht & Quist has estimated pharmaceutical IRRs for single phase-II compounds to be 40% and single phase-III compounds to be 25%; the Palisade Partners (Sony movies) transaction that we participated in last year has an expected IRR of 20%; Elan Pharmaceuticals' pooled transaction has an expected five-year IRR of 13%; limited partner equity funds have about a 25% expected net IRR; and our proprietary analysis of the equity market's IRR for Abbott's entire R&D pipeline of 16-22%. Based on these comparisons, we think that an IRR of 17% over a long period of time is reasonable.

We also evaluated the relationship between our investment (and Abbott's) in the entire portfolio and the average royalty rate that we expect to receive - which is approximately 4-5%. We estimate that the current value of the compounds that Abbott is contributing to the transaction is about \$1 billion. During the four year investment period, Abbot expects to invest \$800 million on the compounds, in addition to our \$200 million. Based on these amounts, our investment is approximately 10% of the total invested dollars. Most pharmaceutical companies earn about a 50% pre-tax margin (excluding R&D expenses) on sales. On a net basis, then, our expected royalty and milestone percentage should be about 5%.

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Risk Analysis.

The fundamental risks of this transaction are whether Abbott receives marketing approval from the FDA for a sufficient number of the Program Compounds and whether the commercial success of the Compounds are as we expect. In developing the *expected return*, we have made a number of reasonable assumptions regarding the probability of obtaining FDA approvals, acceptance of the products in the marketplace and competition. In many cases, our assumptions are significantly more conservative than Abbott's.

Again looking at our base case (which is demonstrated in the Chart I on the next page), the probability of no successful drugs is approximately 1.7% (the bar on the left). There are also a number of scenarios that produce a return of approximately 1% - 2%. These scenarios arise when only a cancer drug is successful. The cancer drugs have lower anticipated revenues, as well as lower probabilities of success, than any of the other drugs. This represents about 1.6% of the scenarios. All other scenarios give us a return of 9% or more. Assuming a 1-2% return represents a loss of half our original investment, the expected loss in this simulation is $1.7\% + \frac{1}{2} \times 1.6\% = 2.5\%$. Spread over a four year duration, the annual expected loss is 62 basis points which corresponds to the risk of a Ba1 rated bond.

We also ran a downside simulation, where the probabilities of success are discounted by 25% from the DiMasi study and the expected revenues are discounted by 25% from our base case (this is shown in Chart II on the next page).

The average return in this downside scenario is 9.3%. The probability that no drugs are successful rises dramatically to 4.9%. The low return scenario is now even lower (-2%) and also has a higher probability (2.7%). So, the annual expected loss is $(4.9\% + .6 \times 2.7\%) / 4 = 165$ basis points which corresponds to the risk of a B1 rated bond.

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CHART I
BASE CASE

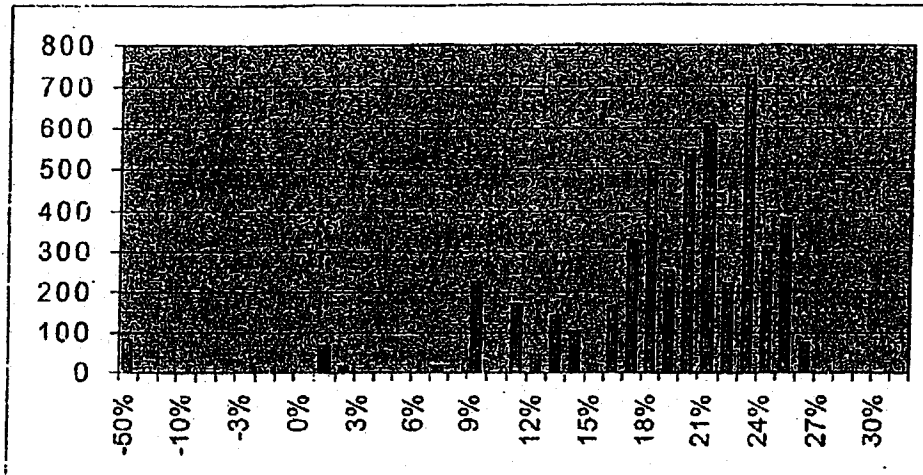
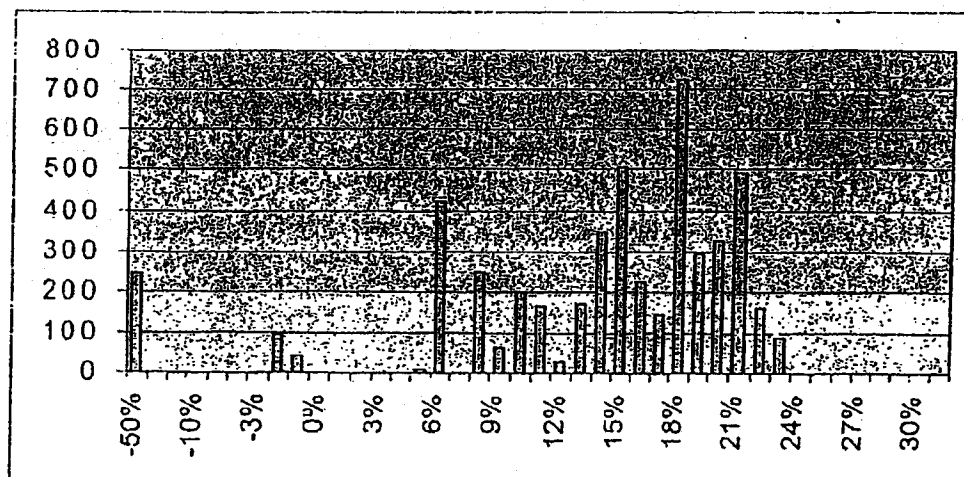


CHART II
DOWNSIDE SCENARIO



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APPENDIX PRODUCT DESCRIPTIONS

ABT-980

ABT-980 is a selective alpha blocker for the treatment of benign prostatic hyperplasia ("BPH"), a disorder that affects approximately 10 million middle-aged and elderly males in the U.S. The primary symptom of BPH is obstruction of urinary outflow and increased frequency of urination. Global sales of BPH products is approximately \$2 billion and is expected to continue to grow as the population ages and as better treatments become available. Currently, alpha blockers, including Abbott's Hytrin which recently became generic, are the most frequently prescribed pharmaceutical treatment for BPH. ABT-980 has the benefit of other alpha blockers, but since it only inhibits alpha receptors in the urinary tract, side effects on the cardiovascular system and central nervous system are expected to be reduced substantially.

One other selective alpha blocker, Boehringer Ingelheim's Flomax, the FDA and has been on the market since 1999. Flomax's current sales are approximately \$300 million. Abbott completed Phase II clinical trials and entered Phase III trials this past summer. In its Phase II trials, Abbott demonstrated that it is effectively equivalent (based on safety and efficacy) to Flomax.

This month, Abbott has learned that in long-term studies with rats, that about 15% of the rats given ABT-980 developed gallstones. Abbott does not know if these results are applicable to humans and at what frequency; however, there is no evidence of gallstones in humans to-date. In addition to its usual clinical trials, Abbott will try to determine whether gallstones will develop in humans over the long-term and what implications that may have. If ABT-980 fails due to this gallstone issue, Abbott will replace ABT-980 with another compound.

Abbott expects to submit ABT-980 for approval in June 2002 and launch the product in August 2003. The patent on ABT-980 expires in 2016.

E-7010

E-7010 is a compound that Abbott licensed from Eisai Co. Ltd. in July 2000. E7010 has completed Phase I trials for various oncology applications. E7010 is an oral medication with a unique mechanism of action that enables it to stop cell mitosis with fewer side effects than current cytotoxic therapies. Although financial terms of the Abbott-Eisai agreement have not been publicly disclosed, Abbott is committing \$25 million in up-front and milestone payments to Eisai and will pay a double-digit royalty percentage on net sales. As a result of in-licensing E7010, Abbott has discontinued development of its own internally developed "anti-mitotic" compound.

Anti-mitotic compounds are not new. Taxol, the largest selling cancer drug, is an anti-mitotic. E7010, however, binds to a different site of a cell's microtubules than Taxol, and inhibits cell proliferation in a unique manner which is believed to cause fewer side effects.

E7010 has successfully completed Phase I clinical trials in Japan. These trials may be repeated in the U.S. but Abbott expects to move quickly into Phase II trials. Abbott expects to submit E7010 for approval in 2003 and launch the product in 2004. The patent on E7010 expires in 2011.

Our scientific consultants, Dr. Dennis A. Carson, UCSD School of Medicine, and Dr. John Kavanaugh, Jr., MD Anderson Cancer Center, did not have specific knowledge about the Abbott/Eisai compound. However, each researcher provided us with consistent critical benchmarks to evaluate the compound (such as whether the compound has been tested against specific cancer cell lines, whether the compound has been tested in combination with other anti-cancer agents. We have confirmed that Abbott independently addressed these critical benchmark and received positive results.

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ABT-773 (Ketolide)

ABT-773 is a member of a novel group of ketolide antibiotics within the macrolide group of antimicrobials. Ketolides have a similar mechanism of action to other macrolides such as Pfizer's Zithromax and Abbott's

Biaxin. Unlike macrolide antibiotics, ketolides are active against *s. pneumonia* and *h. influenza*. The antibiotics market size is approximately \$25 billion; macrolides account for approximately 13% and have an increasing market share. Only one ketolide (*Ketek*) is in advanced clinical trials; this compound, discovered by Aventis, was approved for sale in Europe and was been submitted to the FDA for approval in February 2000. Aventis expects to launch *Ketek* in 2001.

ABT-773 entered Phase III clinical trials this past summer. Abbott expects to submit ABT-773 for approval in June 2002 and launch the product in August 2003. The patent on ABT-773 expires in 2016.

Our scientific consultant, Dr. Robert C. Moellering, Jr., Harvard Medical School and Beth Israel Medical Center, confirmed the scientific rationale for ketolides and their market potential. Based on information that he has seen, Dr. Moellering believes that ABT-773 has more promise than Aventis' *Ketek*.

ABT-594

ABT-594 is a non-opioid, non-NSAID analgesic compound that is orally-administered for the treatment of diabetic neuropathic pain. In animal models, the compound has been shown to be substantially more potent than morphine with a better side effect profile. Neuropathic pain is a substantial and underserved market. Approximately 4-5 million people are thought to suffer from neuropathic pain but only a few medications provide complete pain relief and most medications have significant side effects. As more effective and tolerable medications become available, the neuropathic pain market is expected to experience significant growth.

ABT-594 is currently in Phase II clinical trials. If Phase II and Phase III trials are successful, Abbott expects to submit ABT-594 for approval in May 2003 and launch the product in July 2004. The patent on ABT-594 expires in 2016.

Our scientific consultant, Dr. Mitchell Max, NIH, eliminated an initial concern of ours that the "therapeutic window" of ABT-594 was too short and would potentially block approval. Dr. Max indicated that ABT-594's therapeutic window was acceptable. Dr. Max was not able to fully address toxicity issues raised by two of Abbott's competitors that the compound demonstrated opioid-like side effects in mice. These toxicity issues have not been found by Abbott in its mice or human trials. Dr. Max believed that ABT-594 showed a good profile in mice.

ABT-627

ABT-627 is an inhibitor of a family of endothelin peptides that cause constriction of vascular muscles and stimulate cell proliferation. ABT-627 is currently being developed by Abbott for the treatment of prostate cancer, and other cancer types.

Prostate cancer ("PCA") is the most common cancer to strike non-smoking men. Approximately 1.7 million men live with prostate cancer in the U.S., and there are approximately 180,000 newly diagnosed cases each year. The primary treatment of advanced stage PCA is hormone therapy. Patients receiving hormone therapy become resistant to this treatment after two to three years and then have a life expectancy of only about twelve months.

The primary benefit of ABT-627 is to reduce the pain associated with PCA and to delay the progression of the disease (but not necessarily improve survival).

ABT-627 is currently in Phase III clinical trials. If Phase III trials are successful, Abbott expects to submit ABT-627 for approval in December 2003 and launch the product in June 2004. The patent on ABT-627 expires in 2015.

Our scientific consultant, Dr. Joel Byron Nelson, MD, University of Pittsburgh, has indicated that ABT-627 is safe, significantly reduces pain associated with PCA, and delays disease progression.

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MMPI

MMPI is an inhibitor of enzymes called matrix metalloproteinase that degrade a wide range of protein substrates. High expression of these enzymes occurs in cancer and is associated with the ability of tumors to grow, invade, develop new blood vessels and metastasize.

The MMPI field is competitive. More than 30 firms have filed patents and several companies have compounds in advanced clinical development. Abbott's MMPI has the potential competitive advantage of a better side effect profile. It appears to exhibit less arthritis and tendonitis of the upper joints than its competitors. This compound is currently being evaluated in Phase I clinical trials.

Abbott hopes to submit MMPI for approval in 2004 and launch the product in 2005. The patent on MMPI expires in 2018.

FTI

FTI is an inhibitor of enzymes called farnesyltransferase that assist certain proteins, such as the Ras protein, which are critical for malignant growths.

The FTI field is competitive. Approximately four compounds are in clinical development, and an additional five are in pre-clinical studies. Abbott has not yet chosen a specific FTI to enter into human clinical trials. It expects to enter human clinical trials in 2001.

Abbott hopes to submit FTI for approval in 2004 and launch the product in 2005. The patent on FTI is not expected to expire prior to 2014.

Urokinase

Urokinase is an inhibitor of enzymes called urokinase which are believed to promote the metastases of tumors by breaking down cell membranes.

The Urokinase field is less well-developed than MMPI and FTI. No compound has currently made it into clinical trials. Abbott is currently evaluating several compounds. If Abbott fails to take a Urokinase compound into clinical trials, Abbott will substitute another Phase I compound into the Program.

Abbott hopes to submit Urokinase for approval in 2004 and launch the product in 2005. The patent on Urokinase is not expected to expire prior to 2014.

Our scientific consultant, Dr. Edward Sausville, National Cancer Institute, has indicated that "cytostatic" therapies such as MMPI, FTI and Urokinase may be useful upon recurrence of cancer as a means to stopping the progression of the disease. He believes that they will be useful in combination with other therapies and may not be exceptional compounds by themselves.

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Blewitt 11/17/2006 Deposition Exhibit 17

D's Exhibit 818

From: Lynn C. Klotz [LynnKlotz@compuserve.com]
Sent: Tuesday, July 11, 2000 10:17 AM
To: Blewitt, Stephen
Subject: Rest of research summaries

Steve,

I am back in town.

Attached to this fax are summaries of literature searches and questions for:

- ** ABT-980 (BPH)
- ** A-254751 (cancer, cytotoxic drug)
- ** ABT-594 (neuropathic pain)

I think now you have a complete set of summaries. If you are missing something, let me know as they are all done.

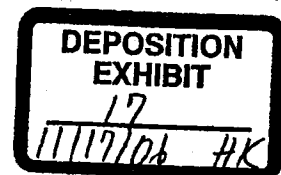
For ABT-980, there are really no surprises. Of course, there are always some questions.

For A-254751 and ABT-594 there are questions, in my mind, about whether they will complete clinical trials. This makes it even more important that we see a summary of the latest clinical trial data.

Let's discuss when you have time.

I am in the process of getting contact information for the interviews. I hope to have my assistant do this in the next few days. Then I will start interviewing, after I look over the questions one more time.

- Lynn



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Abbott's Neuropathic Pain Agonist (ABT-594)

file: abbott-neuropathic

Potential interviewee's for ABT-594

No potential interviewees yet identified, I will search MedLine under "neuropathic pain AND therapy."

Questions for experts on neuropathic pain

There are a number of adjuvant analgesics in clinical development that could compete with nicotinic acetylcholine receptor agonists. Some examples are pregabalin (Parke-Davis) in Phase III trials, GV196771 (Glaxo) in Phase II, mianserin (Merz) in Phase II, which of these—or others that you know of—show special promise for neuropathic pain?

A variety of nicotinic acetylcholine receptor agonists such as nicotine, epibatidine and the azetidiny ether, (R)-5-(2-azetidiny methoxy-2-chloropyridine (ABT-594) appear to possess significant efficacy in preclinical models of pain. Are any of these in clinical trials? Are any especially promising? How do nicotinic acetylcholine receptor agonists stack up against the other kinds of drug candidates (above)?

It has been reported that some of the nicotinic acetylcholine receptor agonists have a small therapeutic window, which I'll define here as:

(conc. for intolerable side effects)/(conc. for efficacy)

What is an acceptable therapeutic window for pain relievers in general, neuropathic pain relievers?

It seems to me that for pain relievers, where a patient might take many more pills than recommended, a therapeutic window of two to three is not sufficient? Comment. What size of therapeutic window does the FDA look for in pain medications?

Questions for Abbott on ABT-594 and its competition

Page 3 in the Abbott report is blank. This is a real page, not just a faxing error, as the next readable page is 4. Was it eliminated for confidentiality reasons?

According to one of your own publications, a variety of nicotinic acetylcholine receptor agonists such as nicotine, epibatidine and the azetidiny ether, (R)-5-(2-azetidiny methoxy-2-chloropyridine (ABT-594) possesses significant efficacy in preclinical models of pain. You do not list any of these as being in clinical trials. Will any enter trials? Do you see any as competitors?

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It has been reported that some of the nicotinic acetylcholine receptor agonists have a small therapeutic window, which I'll define here as:

(conc. for intolerable side effects)/(conc. for efficacy)

What is an acceptable therapeutic window for pain relievers in general, neuropathic pain relievers? Is there something about diabetic pain that would allow for a small therapeutic window? ABT-594 appears to have a therapeutic window of only two to three (Abbott memorandum p.5). It seems to me that for pain relievers, where patients might take many more pills than recommended, a therapeutic window of two to three is not sufficient? Comment. (Abbott is in Phase IIb clinical trials, which is an indicator of safety but not therapeutic window.) What size of therapeutic window does the FDA look for in pain medications?

A Merck study claims that in rats "ABT-594 did not cause rotarod impairment at antinociceptive doses but did cause hypothermia and life-threatening adverse effects including seizures." This study also says its results suggest "ABT-594 has nicotine-like dependence liability....These findings indicate that the acute safety profile of ABT-594 is not significantly improved over other nicotinic analgesics." Also, Novartis finds in rats that "ABT-594 dose-dependently increased tail flick latencies but only at doses that also disrupted performance in the rotarod test" What does Abbott have to say about these conclusions which indicate (significant?) side-effects at concentrations of use?

It should be noted that animal studies are all studies of nociceptive pain (caused by injurious stimuli, eg. heat) as opposed to neuropathic pain (caused by nerve injury). Are there often differences in the effects of analgesics in the two tests? Are there any animal tests to measure effects on neuropathic pain?

Novartis also claims "In all tests, (+)-epibatidine was significantly more potent than ABT-594." According to Abbott, ABT-594 is as efficacious as (+)-epibatidine, which is too toxic for use.)

Example abstracts

1: Pain 2000 Apr;85(3):443-50

Analgesic and toxic effects of ABT-594 resemble epibatidine and nicotine in rats.

Boyce S, Webb JK, Shephard SL, Russell MG, Hill RG, Rupniak NM

Merck Sharp and Dohme Research Laboratories, Neuroscience Research Centre, Terlings Park, Eastwick Road, Harlow, UK. susan_boyce@merck.com

(Why is Merck publishing on an Abbott drug?)

The present study directly compared the antinociceptive and toxic effects of the neuronal nicotinic receptor agonist ABT-594 (It is an agonist, not an antagonist)

((R)-5-(2-azetidylmethoxy)-2-chloropyridine) with (-)-nicotine and (+)-epibatidine. Like (-)-nicotine (0.8 and 1.6 mg/kg s.c.) and (+)-epibatidine (0.005 and 0.01 mg/kg s.c.), ABT-594 (0.05 and 0.1 mg/kg s.c.) increased response latencies in the hot-plate test in rats, indicating that it has antinociceptive activity. In contrast to (-)-nicotine and (+)-epibatidine, ABT-594 did not

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cause rotarod impairment at antinociceptive doses but did cause hypothermia and life-threatening adverse effects including seizures. (*Merck claims ABT-594 causes life-threatening seizures in rats. What is Abbott's response?*) ABT-594 (0.01 and 0.1 mg/kg i.v.) also produced a dose-dependent increase in blood pressure resembling that observed with (-)-nicotine (0.03, 0.1 and 0.03 mg/kg i.v.) and (+)-epibatidine (0.001 and 0.003 mg/kg i.v.). Both the antinociceptive and toxic effects (convulsions and hypertension) were abolished by pretreatment with the brain penetrant neuronal nAChR antagonist mecamylamine (1 mg/kg s.c.; i.v. for cardiovascular studies), demonstrating that these actions of ABT-594 were mediated via activation of neuronal nicotinic receptors. Continuous infusion of ABT-594 (0.2 mg/kg per day s.c.) to rats for 7 days followed by challenge with mecamylamine (1 mg/kg i.p.) induced a nicotine-like abstinence syndrome suggesting that ABT-594 has nicotine-like dependence liability. These findings indicate that the acute safety profile of ABT-594 is not significantly improved over other nicotinic analgesics. (*"other nicotinic analgesics" indicates that ABT-594 is not alone. Are others on the market?*) (*What does Merck have to say about these conclusions? It should be noted that this is a study of nociceptive pain (caused by injurious stimuli, e.g. heat) as opposed to neuropathic pain (caused by nerve injury).*)

PMID: 10781917, UI: 20245628

4: Biochem Pharmacol 1999 Sep 15;58(6):917-23

Therapeutic potential of neuronal nicotinic acetylcholine receptor agonists as novel analgesics. (*Abbott calls these novel analgesics; in contrast to the Merck article which states "acute safety profile of ABT-594 is not significantly improved over other nicotinic analgesics."*)

Decker MW, Meyer MD

Neurological and Urological Diseases Research, Pharmaceutical Products Division, Abbott Laboratories, Abbott Park, IL 60064-6125, USA. michael.decker@abbott.com

Pharmacological treatments for pain have come largely from two classes of compounds--the opioids and the nonsteroidal anti-inflammatory drugs (NSAIDs). Because of deficiencies associated with these two classes of compounds, exploration of novel approaches to pain relief has intensified of late. Nicotine, a neuronal nicotinic acetylcholine receptor (nAChR) agonist, has long been known to have antinociceptive effects in both experimental animals and humans. The relatively modest antinociceptive effects and the toxicities associated with nicotine preclude its development as an analgesic agent. However, recent discoveries in the nAChR field have stimulated interest in nAChR-targeted compounds as potential analgesic agents. Epibatidine, a potent nAChR agonist, was found to have full efficacy relative to opioids in preclinical pain models. Although epibatidine is toxic, these observations demonstrated that modest efficacy is not a general limitation of nAChR agonists. Moreover, exploration of the molecular biology of nAChRs revealed evidence of receptor diversity, suggesting that nAChR subtype-selective agents less toxic than nicotine might be discovered; and early medicinal chemistry efforts already have resulted in compounds with improved safety profiles. For example, ABT-594 is a nAChR agonist with the antinociceptive efficacy of epibatidine, but with an improved safety profile. (*With a therapeutic window of only 2, [Abbott memorandum p.---], is the safety profile improved enough for FDA approval? Abbott is in Phase IIb, which is an indicator of safety. For pain relievers, which might be abused by people in pain, is a therapeutic window of 2 enough?*) This commentary reviews recent findings with nAChR-targeted compounds, explores potential mechanisms responsible for nAChR-mediated antinociception, and raises issues that must be

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addressed in developing compounds of this class as analgesics.

Publication Types:

Review

Review, tutorial

PMID: 10509744, UI: 99437443

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Abbott's Benign Prostatic Hyperplasia Drug (ABT-980)

file: abbott-bph (abbott-b.wpd)

Potential interviewee's for ABT-980

Alpha-adrenoceptor antagonists in the treatment of benign prostatic hyperplasia.

Cooper KL, McKiernan JM, Kaplan SA

Department of Urology, College of Physicians and Surgeons, Columbia University,
New York, New York, USA.

(potential interview candidates)

Beduschi MC, Beduschi R, Oesterling JE

Section of Urology, University of Michigan, Ann Arbor, USA.

(Good interview candidates)

Lepor H

Department of Urology, New York University Medical Center, New York 10016, USA.

(possible interview candidate, but may be working with company marketing tamsulosin)

Questions for experts in BPH

Note to help orient discussion: "The development of alpha-adrenergic blocking agents, [has proceeded] from nonselective alpha-antagonists, to selective alpha1-antagonists, to the more selective alpha1A-antagonists. It is anticipated that more specific agents will optimize the therapeutic effectiveness of alpha-adrenergic blockade in the prostate while reducing the side effects associated with alpha-adrenergic blockade in other areas of the body, such as the vascular system."

Recently, efforts have focused on use of alpha1A-urospecific antagonists such as tamsulosin, alfuzosin, and Abbott-980 in an attempt to achieve similar clinical results as doxazosin and terazosin without systemic adverse effects. Are these alpha1A selective drugs expected to be significantly superior to the older drugs? Why? Are all these drugs structurally different and what is the implication regarding toxicity, potency and pharmacokinetics?

How significant a difference is there in urinary flow rates between the older drugs terazosin, finasteride, etc. and the new selective drugs like Tamsulosin. If there is not much difference, why is Tamsulosin use increasing so rapidly? Is it because there is a significant difference of adverse effects with the selective alpha1A-adrenoceptor antagonists?

One review article states "controversy remains as to whether prostatic smooth muscle contraction is mediated by the alpha1A-adrenoceptor, or by another novel alpha1-adrenoceptor subtype (not corresponding to any of the three known recombinant alpha1-adrenoceptors)." This

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indicates there could be a better target, as yet undiscovered. What is your view on this?

One literature study refers to a patient population that is responsive to alpha1-adrenoceptor antagonists. Does this mean there is a subgroup of patients that don't respond to BPH drugs targeted to alpha1-adrenoceptor? How big is this subgroup?

How would you compare the drugs in clinical trials Dutasteride, Xatral (alfuzosin), HP-4, ABT-980, KMD-3213? Which is most promising? Least promising? Why? Am I missing any promising ones.

Yamanouchi/Glaxo's Phase III drug dutasteride is a 5alpha-reductase inhibitor. What are the advantages/disadvantages of this target versus alpha1A-adrenoceptor targeted drugs? Could one advantage be that there are less enzyme targets than membrane receptor targets, so that an enzyme inhibitor could be used in much lesser concentrations?

Questions for Abbott on ABT-980 and competition

In a Chinese literature study comparing a selective (tamsulosin) and non-selective (terazosin) alpha 1-adrenoceptor antagonists, Tamsulosin showed better results in maximum urinary flow rate (Qmax), and average urinary flow rate (AFR). But the results, in my opinion, were not dramatically different. What are Abbott's comparative results between uroselective ABT 980 and non uroselective drugs?

How significant a difference is there in urinary flow rates between the older drugs terazosin, finasteride, etc. and the new selective drugs like Tamsulosin. If there is not much difference why is Tamsulosin use increasing so rapidly? Is it because there is a significant difference of adverse effects with the selective alpha1-adrenoceptor antagonists? What is the adverse effect profile for ABT-980 compared with competitors?

One literature study refers to a patient population that is responsive to alpha1-adrenoceptor antagonists. Does this mean there is a subgroup of patients that don't respond to BPH drugs targeted to alpha1-adrenoceptor? How big is this subgroup?

One review article states "controversy remains as to whether prostatic smooth muscle contraction is mediated by the alpha1A-adrenoceptor, or by another novel alpha1-adrenoceptor subtype (not corresponding to any of the three known recombinant alpha1-adrenoceptors)." This indicates there could be a better target, as yet undiscovered.

Another 1999 review states, "long term studies must be done to determine whether pharmacological uroselectivity is actually clinically relevant." What is the meaning of this cautionary note?

Is Tamsulosin (Flomax) a Merck drug? If not does Merck have a drug for BPH in clinical trials?

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JH 003020

Is Abbott aware of KMD-3213, the Kissei Pharmaceutical Co drug? They claim it is more uroselective and longer lasting than tamsulosin.

Like Abbott's 980, both Tamsulosin and Alfuzosin (Xatral) which is Synthelabo's drug in Phase II trials, are also alpha1A-urospecific antagonists. What are the advantages, disadvantages with respect to ABT-980? Is the main advantage the 156/1 1a vs 1b receptor selectivity ratio? How does this selectivity reflect itself at the patient level? Is Abbott 980, structurally different enough, so there will be no patent issues?

Additionally, Yamanouchi/Glaxo's Phase III drug duasteride is a 5alpha-reductase inhibitor. What are the advantages/disadvantages of this target?

Example articles

Drugs 1999 Jan;57(1):9-17

Alpha-adrenoceptor antagonists in the treatment of benign prostatic hyperplasia.

Cooper KL, McKiernan JM, Kaplan SA

Department of Urology, College of Physicians and Surgeons, Columbia University, New York, New York, USA.

(potential interview candidates)

Lower urinary tract symptoms secondary to benign prostatic hyperplasia (BPH) have a significant impact on the lifestyle of older men. Transurethral resection of the prostate (TURP) is the most effective surgical therapy for this condition but an increasing number of patients are electing conservative medical therapy. Alpha-Adrenoceptor antagonists and 5alpha-reductase inhibitors are the 2 categories of drug therapy currently available for BPH. *(Yamanouchi/Glaxo's Phase III drug duasteride is a 5-alpha drug. What are the advantages/disadvantages of this target? Use of alpha-adrenoceptor antagonists in the treatment of BPH is based on their ability to prevent the neural stimulation which induces prostate smooth muscle contraction, producing lower urinary tract symptoms. Several studies have demonstrated that alpha-receptors predominate in the prostatic stroma, capsule and bladder neck. Initial work focused on the use of phenoxybenzamine, a nonspecific alpha-blocker, in the treatment of BPH. While results were promising, significant adverse effects and concern over potential mutagenicity have resulted in a lack of use of this medication for this indication. Subsequent attention was directed towards the short-acting alpha-specific antagonist prazosin. Results conflicted regarding whether an actual sustained improvement in lower urinary tract symptoms could be achieved with this medication, and because of twice daily dosing compliance issues were a drawback. Thus, the mainstay in pharmacological treatment of BPH over the past decade has been 2 once-a-day alpha-specific antagonists, doxazosin and terazosin. Over 75% of all prescriptions written for BPH are for one of these 2 medications. Despite their tremendous success in both decreasing urinary symptoms and increasing urinary flow rates, systemic adverse effects can be bothersome. Recently, efforts have focused on use of alpha1A-urospecific antagonists such as tamsulosin and alfuzosin in an attempt to achieve similar clinical results as doxazosin and terazosin without systemic adverse effects. (Alfuzosin (Xatral) is Synthelabo's drug in Phase II. What are its advantages, disadvantages with respect to ABT-980?)* Thus far, results are promising, but long term studies

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JH_003021

must be done to determine whether pharmacological uroselectivity is actually clinically relevant.
(What is the meaning of this cautionary note?)

Publication Types:

Review

Review, tutorial

PMID: 9951948, UI: 99135419

9: Urology 1998 Jun;51(6):861-72

Alpha-blockade therapy for benign prostatic hyperplasia: from a nonselective to a more selective alpha1A-adrenergic antagonist.

Beduschi MC, Beduschi R, Oesterling JB

Section of Urology, University of Michigan, Ann Arbor, USA.

(Good interview candidates)

Benign prostatic hyperplasia (BPH) is very common in older men, causing symptoms that can markedly impair quality of life. Surgical treatment, typically transurethral resection of the prostate (TURP), is highly effective but can be costly and is associated with the risk for significant morbidity. Medical treatments for BPH are targeted toward reducing bladder outlet obstruction either by androgen blockade to reduce prostatic volume or alpha-adrenergic blockade to relax the smooth muscle tone of the prostate. In recent years, understanding of the sympathetic innervation of the prostate has improved. This has been paralleled by the development of alpha-adrenergic blocking agents, from nonselective alpha-antagonists, to selective alpha1-antagonists, to the more selective alpha1A-antagonists. It is anticipated that more specific agents will optimize the therapeutic effectiveness of alpha-adrenergic blockade in the prostate while reducing the side effects associated with alpha-adrenergic blockade in other areas of the body, such as the vascular system. This article reviews the evolution of alpha-blockade therapy in management of BPH, focusing on tamsulosin, an agent targeted toward the alpha1A-adrenoceptor that predominates in the prostate. Clinical trials in Europe and the United States have provided evidence that tamsulosin is effective at doses of 0.4 and 0.8 mg/day. At both doses, tamsulosin is associated with significant improvements in the American Urological Association symptom score and the mean and peak urinary flow rates as compared with placebo. This once-daily alpha1A-adrenergic antagonist is well-tolerated, with a minimal potential for the side effects associated with alphas-blocker therapy.

Publication Types:

Review

Review, tutorial

PMID: 9609620, UI: 98270783

5: Eur Urol 1999;36 Suppl 1:17-22

Adrenoceptor pharmacology: urogenital applications.

Ruffolo RR Jr, Hieble JP

Division of Biological Sciences, SmithKline Beecham Pharmaceuticals, King of Prussia, PA., USA.

Although the selective alpha1-adrenoceptor antagonists were initially developed as antihypertensive drugs, and they are still utilized for this indication, the alpha1-adrenoceptor

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JH 003022

blockers are now used extensively for the symptomatic treatment of benign prostatic hyperplasia (BPH). As a result, a number of new drugs in this class have been specifically developed for use in BPH. The utility of alpha1-adrenoceptor antagonists in BPH derives from the observation, made several decades ago, that the irreversible, alpha1- adrenoceptor selective antagonist phenoxybenzamine, blocked the contractile activity of norepinephrine in isolated strips of rat or human prostate. Following the further subclassification of alpha1-adrenoceptors into the alpha1A-, alpha1B- and alpha1D-adrenoceptor subtypes, the relationship between subtype selectivity and efficacy in BPH has been investigated in the hope of developing more selective drugs for the treatment of this disorder. Molecular characterization of the adrenoceptor population in human prostate clearly shows the alpha1A-adrenoceptor subtype to predominate, and highly selective alpha1A-adrenoceptor antagonists have been identified and investigated in BPH. However, controversy remains as to whether prostatic smooth muscle contraction is mediated by the alpha1A-adrenoceptor, or by another novel alpha1-adrenoceptor subtype (not corresponding to any of the three known recombinant alpha1-adrenoceptors), or both. *(This indicates there could be a better target, as yet undiscovered. Does SmithKline Beecham have anything in the pipeline?)* Alpha1-Adrenoceptor agonists have been used clinically for the treatment of stress incontinence, acting to increase urethral tone by contracting urethral smooth muscle. Research efforts are ongoing to identify agents of this class having a selective action on urethral versus vascular smooth muscle, in order to produce a greater effect on the urethra without producing dose-limiting increases in blood pressure. Local administration of vascular smooth muscle relaxants, either alone or in combination, has been used for the treatment of erectile dysfunction. An alpha1-adrenoceptor antagonist is often used as one component in such mixtures, which act to relax trabecular smooth muscle. The recent demonstration that a systemically administered drug can produce a sufficiently selective action on cavernosal smooth muscle to allow efficacy without producing limiting systemic side effects has renewed interest in the possibility of systemic administration of alpha1-adrenoceptor antagonists for this indication.

Publication Types:

Review

Review, academic

PMID: 10393468, UI: 99321777

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JH 003023

Abbott's Colchicine Site Binding Drug (A-254751)

file: abbott-colchicine

Potential interviewee's for A-254751

Leoni LM, Hamel E, Gemini D, Shih H, Carrera CJ, Cottam HB, Carson DA
Department of Medicine and The Sam and Rose Stein Institute for Research on
Aging, University of California San Diego, La Jolla 92093, USA. lleoni@ucsd.edu
(potential interview candidates)

Verdier-Pinard P, Lai JY, Yoo HD, Yu J, Marquez B, Nagle DG, Nambu M, White JD,
Falck JR, Gerwick WH, Day BW, Hamel E
Laboratory of Drug Discovery Research and Development, National Cancer
Institute, Frederick Cancer Research and Development Center, Maryland 21702,
USA.
(Good interview candidates.)

Questions for experts in microtubulin-destabilizing cytotoxic cancer therapies cancer

There are a number of colchicine-site binding agents in preclinical and in clinical trials. Some that we have identified are: combretastatin-A4 (Oxigene), T138607 and T900607 (Tularik), Amphethinle (ICI), 1069C (Wellcome), trimethylcholinic acid (NIH), A-254751 (Abbott), indanocine, tricyclic pyrones, H-10, curacin A. Are you familiar with some of these? Do any stand out as especially promising?

What is the theoretical reason for targeting the colchicine site?

There are also a number of Vinca-alkaloid site ligands in development, which I believe are also antimetabolic agents. Do both types block tubulin formation? Are there any perceived advantages/disadvantages to each target?

The Parke Davis drug, CI-980, was just abandoned in Phase II clinical trials. Since it was in Phase II, was lack of efficacy reason for abandonment, or the dose-limiting toxicities seen in Phase I? A number of other colchicine-site drugs have also been abandoned in clinical trials, and I believe none have made it to market? Since all target the colchicine-binding site, could most of the new drugs also suffer the same clinical trial fate. Put another way, what does this say about the prospects for colchicine binding drugs in general?

One drug, the antimetabolic H10 is described as a bifunctional anticancer drug: antimetabolic and also blocks the cellular transport of to inhibit DNA synthesis. Bifunctionality is perhaps an interesting observation, but is it clinically significant?

A study by Ajinomoto indicated that some tubulin binding agents also exhibit cytostatic antitumor effects. Also, a UCSD study on indanocine states that it is both a cytostatic and

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cytotoxic agent. Are the antivasular effects due to tubulin binding of fast-growing vasculature at the tumor site, and so are to be expected with all tubulin binding agents?

Questions for Abbott on A-254751 and its competition

The colchicine binding agent, Indanocine, was identified by the National Cancer Institute's Developmental Therapeutics Program as a promising colchicine-site binding agent, which is active in MDR cells. It seems to have the same properties as A-254751? Has anyone licensed from NCI, or is this A254751? How do you view its prospects?

A study by Ajinomoto indicated that some tubulin binding agents also exhibit cystostatic antivasular effects. Also, a UCSD study on Indanocine states that it is both a cystostatic and cytotoxic agent. Does A-254751 exert antivasular effects too? Are the antivasular effects due to tubulin binding of fast-growing vasculature at the tumor site?

The Parke Davis drug, CI-980, was just abandoned in Phase II clinical trials. Since it was in Phase II, was lack of efficacy reason for abandonment, or the dose-limiting toxicities seen in Phase I? A number of other colchicine-site drugs have also been abandoned in clinical trials, and I believe none have made it to market? Since all target the colchicine-binding site, could most of the new drugs also suffer the same clinical-trial fate. Put another way, what does this say about the prospects for colchicine-binding-site drugs in general, in particular? Abbott is already anticipating vasoconstriction risk in humans from its studies in dogs. Why does Abbott think it will not suffer the same fate in human trials?

A study by Ajinomoto indicated that some tubulin binding agents also exhibit cystostatic antivasular effects. Also, a UCSD study on indanocine states that it is both a cystostatic and cytotoxic agent. Does A-254751 exert antivasular effects too? Are the antivasular effects due to tubulin binding of fast-growing vasculature at the tumor site?

Example abstracts

3: Anticancer Drugs 1998 Jun;9(5):405-9

Phase II study of i.v. CI-980 in patients with advanced platinum refractory epithelial ovarian carcinoma.

Kudelka AP, Hasenburg A, Verschraegen CF, Edwards CL, Meyers CA, Varma D, Freedman RS, Forman A, Conrad CA, Grove W, Grothey A, Kavanagh JJ
University of Texas MD Anderson Cancer Center, Houston 77030-4095, USA.

CI-980 is a synthetic mitotic inhibitor that binds to tubulin at the colchicine site, inhibiting the polymerization of microtubules and arresting cellular division in metaphase. Myelosuppression and neurotoxicity were dose-limiting in phase I studies. *(CI-980 is the Parke Davis drug just abandoned in Phase II clinical trials. Since it was in Phase II, was lack of efficacy reason for abandonment, or the dose-limiting toxicities seen in Phase I? A number of other colchicine binding drugs have also been abandoned in clinical trials and none have made it to market? Since the mechanism of CI-980 and the other abandoned drugs is the same as the preclinical A-*

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254751, couldn't A-254751 suffer the same fate. Abbott is already anticipating vasoconstriction risk in humans from its studies in dogs. Why does Abbott think it will not suffer the same fate in human trials?) Sixteen patients with stage III and IV platinum-refractory ovarian cancer received 4.5 mg/m²/day of CI-980 as a continuous i.v. infusion for 72 h, repeated every 3 weeks. Eleven patients had progression and four patients had stable disease. One patient (6%; 95% CI 0-25%) achieved a partial response after 9 months of treatment which lasted for 27 months. The overall median survival was 7 months. Grade 4 granulocytopenia occurred in five patients, with two episodes of neutropenic fever. Neurological toxicity was mild with 12 episodes of transient subclinical recent memory loss documented in four patients by specialized neuropsychological evaluations. One patient each had hallucinations and mild truncal ataxia, and four patients had mild, reversible neurosensory toxicity. One episode of severe hypoxemia and dyspnea occurred in a patient with chronic obstructive pulmonary disease. CI-980 has minimal activity and is tolerable in a population of heavily pretreated patients with platinum refractory ovarian cancer. *(As this is a Phase II trial, the minimal efficacy here may be the reason for abandonment. What does this say about the prospects for colchicine binding drugs in general?)*

Publication Types:

Clinical trial

Clinical trial, phase ii

PMID: 9660537, UI: 98321974

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JH 003026

Blewitt 11/17/2006 Deposition Exhibit 18

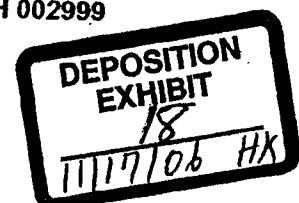
D's Exhibit 819

From: Lynn C. Klotz [LynnKlotz@compuserve.com]
Sent: Tuesday, July 18, 2000 6:42 PM
To: Blewitt, Stephen
Subject: First neuropathic pain interview

I got my five minute interview with Mitchell Max of NIH (see attached). I actually got all my key questioned answered. The bottom line is that all drugs for neuropathic pain are mediocre. The questions now are whether the Parke-Davis drug is much, much better than Abbotts, and why have both Merck and Novartis bad-mouthed Abbott?

--Lynn

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JH 002999



File: neuropathy

Mitchell Max interview on diabetic neuropathic pain medications

Mitchell B. Max, M.D.
Senior Investigator, Pain and Neurosensory Mechanisms Branch
National Institute of Dental and Craniofacial Research
National Institutes of Health
Building 10, Room 3C-405
Bethesda, MD 20892-1258
tel: 301-496-5483 x405

Dr. Max is the senior author on a recent article entitled "High-dose Oral Dextromethorphan Versus Placebo in Painful Diabetic Neuropathy and Postherpetic Neuralgia." The article reported the results of a human clinical trial.

Interview

The interview summary below was typed from handwritten notes and memory shortly after the interview, and is therefore subject to error in details normal to this process. Some of the interview has been rearranged for clarity. The interviewers comments and questions are in italics, Dr. Max's comments in normal type. This interview summary should remain **confidential** within John Hancock, as I did not ask if it could be disseminated beyond Hancock. Additionally, Dr. Max has had no chance to comment and correct the summaries.

There are a number of adjuvant analgesics in clinical development. Some examples are pregabalin (Parke-Davis) in Phase III trials, GV196771 (Glaxo) in Phase II, mamantine (Merz) in Phase II, ABT-924 (Abbott) which of these--or others that you know of--show special promise for neuropathic pain? Which appear to be unpromising?

The word on the street is that pregabalin appears to be especially promising. It works as well as gabapentin and is safe. I don't know about the Glaxo one. Mamantine looks terrible. ABT-924 nobody really knows yet as Abbott has been rather quiet about it. It looked good in mouse studies, but that may not say much about humans.

I just read two recent abstracts that kind of bad-mouthed ABT-924. They were mouse studies.

Well, then I guess I just don't know.

Some literature studies indicate that some neuropathic pain relievers have small therapeutic windows, which I'll define here as (conc. for intolerable side effects)/(conc. for efficacy). What is an acceptable therapeutic window for pain relievers in general, neuropathic pain relievers? It seems to me that for pain relievers, where a patient might take many more pills than recommended, a therapeutic window of two to three is not sufficient?

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JH 003000

For chronic pain medications you just don't have good therapeutic windows. If you get a 25% relief in pain but you are dizzy and can't drive, that might be acceptable. A therapeutic window of two is certainly acceptable.

How do nicotinic acetylcholine receptor agonists stack up against other approaches? For example, in one of your recent papers you studied an N-methyl-D-aspartate (NMDA) receptor antagonist and found it to be promising in low doses.

All approaches are mediocre.

So even a somewhat toxic neuropathic pain medication can get through the FDA as long as it is slightly better than existing ones?

Yes

Thanks for your time, for a very short interview it was certainly informative.

Additional questions for Abbott from what was learned from this interview:

Experts in neuropathic pain point to pregabalin (Parke-Davis, in Phase III trials) as being especially promising. It works as well as gabapentin and is safe. How does ABT-924 stack up against pregabalin? Since pregabalin will likely finish clinical trials before ABT-924, if it is approved is there some chance that it might prevent the approval of ABT-924 if ABT-924 is not significantly better?

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Blewitt 11/17/2006 Deposition Exhibit 19

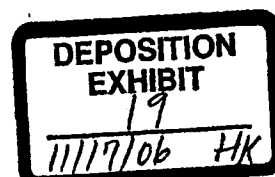
D's Exhibit 562

From: Lynn C. Klotz [LynnKlotz@compuserve.com]
Sent: Friday, July 28, 2000 10:55 AM
To: Blewitt, Stephen
Subject: Abbott interview writeup

See attached. Overall, most questions were answered satisfactorily--certainly no indication of any deception on Abbott's part. Only one question needs following up, the patent question on ABT-594. Let's talk to see where we go from here, and to discuss the format of the final report.

-- Lynn

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JH 002973



File: interview-abbott

Telephone Interview with Abbott, Conducted by L. Klotz (consultant) and S. Blewitt.

Representing Abbott:

John Leonard, Vice President of Development

Phil _____, Corporate Licensing

Steve Cohen, Controller

[Steve, do you have full names and formal titles for the Abbott participants?]

Almost all answers were provided by John Leonard, as the other two Abbott participants were not scientists and this was a technically oriented interview. Interviewer questions and comments are in italics, Abbotts response in normal type.

ABT-773, ketolide antibiotic for bacteria resistant to antibiotics

To attain a \$1 billion market for a ketolide antibiotic as Aventis predicts (and you also predict), one of the experts we interviewed thought that two things must happen. It must unseat erythromycin, and it must out compete the new fluoroquinolones which are going after the same market. Do you agree with that assessment? If so, how do you see the marketing develop for ABT-773?

Erythromycin was unseated a decade ago, the erythromycin derivative zitromax has \$600 to \$700 US sales and over \$1 billion worldwide. It has 15% market share *[of the deriviative market?]*.

[He mentioned a few other big sellers, from which it might be concluded that there is a very big total market in which Abbott could achieve a significant market share.]

Fluoroquinolones in the past were used for urinary tract infections, but their marketers are trying to move into the respiratory infection market.

Ketolides are related to macrolides, for which several resistance mechanisms exist. Do you expect resistance to develop rapidly from some of the minor macrolide resistance mechanisms, even though ketolides have been designed to circumvent the major efflux and ribosomal methylation mechanisms?

In the US, efflux is the major mechanism of resistance. I believe in Japan the ribosomal mechanism may be important too. ABT-773 was originally designed and synthesized to avoid efflux. It has demonstrated efficacy on normally antibiotic resistant cells. We are about to enter Phase III trials.

One expert stated that ketolides have a limited range of bacterial-species activity, which will

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JH 002974

probably limit their usefulness to respiratory infections. While respiratory infections (sinusitis, bronchitis and pneumonia) are a very large market, do your market estimates include other large markets? If so, why do you think ABT-773 can serve those other markets?

ABT-773 was designed first and foremost for respiratory indications.

Your Phase II clinical data indicates a 92% effectiveness (overall eradication) against H. Influenzae. How does this compare to erythromycin? If this indicates that ABT-773 is more effective than erythromycin against H. Influenzae, how do you see that affecting market size? Can you break down the increase in market for us.

Very early on we specifically designed our clinical trials to look at *H. Influenzae*, "which sets the bar" for these antibiotics. ABT-773 is as good or maybe better, but the study was small.

Do you see a competitive threat from the new peptide antibiotics such as Daptinomycin?

They are low on our radar screen, because they are IV administered. ABT-773 is for ambulatory patients, who have a cough, a stuffy nose. The IV administered antibiotics are for hospital use. We are developing an IV form of ABT-774, to compete in that market, but the market is small, and we haven't really talked too much about this.

ABT-594, cholinergic channel modulator for diabetic neuropathic pain

Experts in neuropathic pain point to pregabalin (Parke-Davis, Phase III trials) as being especially promising, because it works as well as gabapentin and is safe. How does ABT-924 stack up against pregabalin? Pregabalin will likely finish clinical trials and be approved (if it is approved) before ABT-924. Although measures have been developed, pain relief is subjective, so demonstrating to the FDA that ABT-594 is more efficacious than gabapentin may be difficult. Could the difficulty of providing convincing statistics prevent the approval of ABT-924?

We haven't compared the two drugs head-to-head, but from what we see in the pregabalin literature, we believe our drug is good. I doubt that the FDA would use pregabalin as a standard for approval. In the neuropathic pain area, there are no standards. The last drug was approved 40(?) years ago. We see no approval risk for ABT-594 from pregabalin. Also ABT-594 works through a different mechanism. There is a great need for drugs in the neuropathic pain area.

From your descriptive memorandum, ABT-594 appears to have a therapeutic window of only two to three. Is this small therapeutic window acceptable? Has the FDA approved neuropathic pain relievers with such a low therapeutic window?

Aspirin has a therapeutic window of only ten. For ABT-594, maybe we will be able to get a theoretical window greater than five. When we give patients the upper-limit dose, the side effects aren't dangerous: headache, vomiting. These minor side effects appear to go away over time.

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JH 002975

A Merck study claims that in rats "ABT-594 did not cause rotarod impairment at antinociceptive doses but did cause hypothermia and life-threatening adverse effects including seizures." This study also says its results suggest "ABT-594 has nicotine-like dependence liability....These findings indicate that the acute safety profile of ABT-594 is not significantly improved over other nicotinic analgesics." Also, Novartis finds in rats that "ABT-594 dose-dependently increased tail flick latencies but only at doses that also disrupted performance in the rotarod test" Novartis also claims "In all tests, (+)-epibatidine was significantly more potent than ABT-594." According to Abbott, ABT-594 is as efficacious as (+)-epibatidine, which is too toxic for use. How do you explain the differences between your findings in rodents and humans and the Merck and Novartis findings in rodents?

Someone called my attention to the Merck study, I don't think I've seen the Novartis one. However, in clinical studies I would trade five million rats for a hundred people.

Why are Merck and Novartis taking "pot shots" at you?

I think Merck and Novartis are using us as a standard. We are the only drug to compare with. Merck bought Sybia, the company which has rights to many of the receptors like the one we are targeting.

Is ABT-594 clear of the Sybia's patents?

ABT-594 was prior to the Sybia/Merck arrangement. Future products must avoid Sybia's rights.

[Note: this did not actually answer whether Abbott has an invention prior to Sybia, or if Sybia's patents may cover the receptor for Abbott's drug. We should clarify this.]

In an Abbott year 2000 study in rats, ABT-627 (the advanced prostate cancer cytostatic and pain drug) was examined for diabetic neuropathy. How does the promise of ABT-627 compare to ABT-594 for neuropathic pain? Are the two drugs structurally related? Is Abbott heading toward clinical trials with ABT-627 for neuropathic pain?

Yes, we have looked at ABT-627 as an analgesic, it has limited value for pain, so we won't pursue it.

ABT-627 also might be used to treat cardiovascular disease. We don't serve that market, so we won't pursue that indication for business reasons.

ABT-980, alpha 1a adrenoceptor antagonist for BPH

In a Chinese literature study comparing selective (tamsulosin, Flomax) and non-selective (terazosin) alpha 1-adrenoceptor antagonists, tamsulosin showed better results in maximum urinary flow rate (Qmax), and average urinary flow rate (AFR). But the results, in our naive opinion, were not dramatically different. For example, AFR increased 37.5% for tamsulosin and

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JH 002976

25.8% for Flomax. I know these drugs sell well, but I am not sure why.

In our human trials we look at flow, and we look at symptoms. Treating the symptoms is important. For example does the bladder empty completely, is urgency to urinate reduced or eliminated.

We have completed Phase II, clinical trials and are about to enter Phase III. Our data so far, show that ABT-980 is virtually super imposable on Flomax, maybe we are slightly better in a few areas.

At what point does the FDA say, OK we have a number of products on the market which are not improvements over the previous ones, we won't approve the next one because patients don't need another similar product?

This is an incremental product, a lot of what our industry does is incremental products. So it becomes a marketing and pricing issue. The FDA doesn't make decisions based on the number of products already on the market. In Europe, where prices are controlled, if a product is a me-too product, it can enter the market but at a lower price.

One literature study refers to a patient population that is responsive to alpha1-adrenoceptor antagonists. Does this mean there is a subgroup of patients that don't respond to BPH drugs targeted to alpha1-adrenoceptor? How big is this subgroup?

I can't answer that; on one has carried out pharmacogenetic studies. The subgroup referred to could be those whose prostate is so big, nothing short of surgery will help them.

A-254751, tubulin colchicine-site binding drug to inhibit microtubule formation for advanced cancers

One expert said, of the number of colchicine-site binding agents in preclinical and in clinical trials, combretastatin-A4 (Oxigene, Phase I trails) stands out. He said it is receiving a lot of attention because it is also an antivasular agent. How does A-254751 stack up against combrestatin?

I don't know.

A strikingly large number of colchicine-site drugs have been abandoned in clinical trials. One expert claims the older colchicine-binding drugs failed before they are too toxic. More specifically, the older drugs failed for pharmacokinetic reasons: mainly too long half-lives in the body. He further stated: what one wants are colchicine-binding drugs that get into cells quickly, do their job, and are eliminated from the body quickly. Do you agree with this assessment? What are the pharmacokinetics of A-254751? How does the drug escape MDR?

I can't give you the pharmacokinetic data from memory.

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JH 002977

Could we look at it?

Yes, I can get it for you.

[Since A-254751 is in early stage clinical trials, the data may give us some insight about its prospects. But I am already rating this drug as only having a fair chance of FDA approval based on the fate of the other colchicine-site binding agents. I don't see that the data can change that opinion, so I withdrew the request to see it.]

We don't know how the drug escapes the MDR mechanism.

How does A-254751 compare to other colchicine-site binding agents regarding toxicity?

We think the window is pretty good compared to others.

Cytostatic drugs (except for ABT-627, the endothelin ET-1 antagonist)

One literature review indicated that approximately thirty angiostatic agents are undergoing clinical trials, with another fifty agents in preclinical testing. This is a crowded field. While Abbott's approaches are clearly competitive, how can Abbott achieve a large market share given the large number of competitors in the cytostatic area in general?

I agree that for cytostatic drugs in general their may be 50 to 200 in testing. To get the market lead, get one that works. In this business, there are a number of people who start things, many more than the ones who finish.

One expert tells us that so far the FDA has not wavered from the strict position of improved survival as the criterion for cancer drug approval. This would include longer survival and improved quality of life. They have not yet approved any drug for slower disease progression. Since cytostatic therapies don't kill tumor cells, the use of time to progression of disease seems to be the necessary clinical trials measure. What are the problems with this measure? Do you think the difficulty of measuring time to progression, lack of statistically significant evidence of longer survival, and difficulty in determining improved quality-of-life will prolong clinical trials or cause some drugs to fail to get FDA approval? How serious an issue is this?

You set this question up too starkly. Clearly drugs that make people to live longer, as long as they maintain a quality of life, are likely to be approved. With ABT-627, we are working with the FDA to determine what is a meaningful clinical progression. We are working with the FDA every step of the way.

For any of your cytostatic drugs, have you any data for cost utility = (long-term-cost)/(quality-life-years-saved)? In particular, if there are side-effects, quality-life-years saved may be much less than simply life-years-saved, and cost-utility may be high.

We haven't done cost-utility precisely, but we compare favorably with other products—for

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example, ABT-627 compares favorably with Luprolide, a chemical castration drug with sales of \$800 million. Also, Luprolide is very expensive.

In this regard, metalloproteinase inhibitors are particularly worrisome. One of our experts stated that the metalloproteinase inhibitor BB-94 has "underwhelming" efficacy. It is toxic and causes joint problems. Additionally, one literature study finds that the metalloproteinase inhibitor Marimastat had no survival advantage when compared to chemotherapy with gemcitabine in advanced pancreatic cancer, and Abbott states that Marimastat has dose-limiting joint side-effects. To play devil's advocate, you could argue: Why should the FDA approve a drug that does not prolong a patient's life and at the same time inflicts pain? Could failure for approval of Marimastat make the approval barriers higher for follow-on drugs? What evidence do you have that gelatinase inhibitors like ABT-518 might not have the same FDA approval concerns?

British Biotech was first with Marimastat, so it has the problems of being first. One thing Abbott has learned from Marimastat is that it is not selective enough. Abbott's metalloproteinase inhibitor avoids blocking a particular enzyme that is needed to keep joints clear. Abbott's drug does not create what we call "frozen shoulder." There is a good animal model that we use for frozen shoulder.

ABT-627, the endothelin ET-1 antagonist

Abbott's internal memorandum describes ABT-627 as a potent vasoconstrictor. Abbott indicated in its internal memorandum that the mechanism of action in prostate cancer wasn't yet known. Additionally, one of our experts said that reducing blood supply to tumor cells was likely not the mechanism by which ABT-627 delays prostate cancer progression, since the cancer metastasize to bone and is slow growing both indicating there is less need for a good blood supply. What are your latest thoughts about mechanism of action? A competitor who has a better knowledge of mechanism may be in good position to develop a superior drug.

Yes, we agree that the mechanism of action for metastacized prostate cancer is not vasoconstriction. We do have knowledge about mechanism for prostate cancer.

[The interview ended here because Steve Cohen had an important meeting to attend. There was little need for additional questions on ABT-627 as well.]

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Blewitt 11/17/2006 Deposition Exhibit 20

D's Exhibit 820 - Part 1

RESEARCH FUNDING AGREEMENT

by and between

ABBOTT LABORATORIES

and

JOHN HANCOCK LIFE INSURANCE COMPANY,

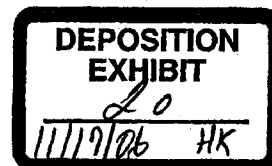
JOHN HANCOCK VARIABLE LIFE INSURANCE COMPANY,

and

INVESTORS PARTNER LIFE INSURANCE COMPANY

dated as of

March 13, 2001



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RESEARCH FUNDING AGREEMENT

by and between

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and

JOHN HANCOCK LIFE INSURANCE COMPANY,

JOHN HANCOCK VARIABLE LIFE INSURANCE COMPANY,

and

INVESTORS PARTNER LIFE INSURANCE COMPANY

dated as of

March 13, 2001

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RESEARCH FUNDING AGREEMENT

This Research Funding Agreement is made as of March 13, 2001, by and between Abbott Laboratories; an Illinois corporation ("Abbott"), with its principal offices at 100 Abbott Park Road, Abbott Park, Illinois 60064-6049, and John Hancock Life Insurance Company, a Massachusetts corporation, John Hancock Variable Life Insurance Company, a Massachusetts corporation, and Investors Partner Life Insurance Company, a Delaware corporation (collectively, "John Hancock"), each with its principal offices at 200 Clarendon Street, Boston, Massachusetts 02117.

WITNESSETH

WHEREAS, Abbott is a global healthcare company actively engaged in the research and development of human pharmaceutical products;

WHEREAS, Abbott is interested in obtaining additional funding to support such research and development activities with respect to certain pharmaceutical products which are under development; and

WHEREAS, John Hancock is interested in providing such additional funding in exchange for the right to receive future milestone and royalty payments from Abbott.

NOW, THEREFORE, in consideration of the foregoing and the mutual covenants and undertakings contained herein, the parties hereto agree as follows:

ARTICLE I DEFINITIONS

In addition to the other terms defined elsewhere herein, the following terms shall have the following meanings when used in this Agreement (and any term defined in the singular shall have the same meaning when used in the plural and vice versa, unless stated otherwise):

1.1 "Affiliate" shall mean, with respect to each party, any corporation or other form of business organization, which directly or indirectly owns, controls, is controlled by, or is under common control with, such party. An entity shall be regarded as being in control of another entity if the former entity has the direct or indirect power to order or cause the direction of the policies of the other entity whether (i) through the ownership of more than fifty percent (50%) in the United States, or thirty percent (30%) or more outside the United States, of the outstanding voting securities (or other ownership interest for a business organization other than a corporation) of that entity; or (ii) by contract, statute, regulation or otherwise.

1.2 "Aggregate Carryover Amount" shall have the meaning given in Section 3.3.

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1.3 "Aggregate Spending Target" shall mean Six Hundred Fourteen Million Dollars (\$614,000,000).

1.4 "Annual Carryover Amount" shall have the meaning given in Section 3.3.

1.5 "Annual Minimum Spending Target" for each Program Year, shall mean the sum of (i) the Program Payment of John Hancock for such Program Year as specified in Section 3.1, (ii) Fifty Million Dollars (\$50,000,000), and (iii) any Annual Carryover Amount for the prior Program Year pursuant to Section 3.3. With respect to the fifth Program Year, the "Annual Minimum Spending Target" shall mean the Annual Carryover Amount for the prior Program Year pursuant to Section 3.3.

1.6 "Annual Research Plan" shall mean, for the Program Years in the Program Term, a reasonably and consistently detailed statement of the objectives, activities, timetable and budget for the Research Program for every Program Year remaining in the Program Term, it being understood that less detail shall be required for Program Years that are not the current Program Year. The first Annual Research Plan is attached as Exhibit 1.6. "Annual Research Plan" shall mean, for those years occurring after the expiration of the Program Term, a reasonably and consistently detailed statement of the objectives, activities, timetable and budget for the Research Program for such year only.

1.7 "Bundled Product" shall have the meaning given in paragraph (b) of the definition of Net Sales.

1.8 "Ceased Program" shall mean at least one year has elapsed since Abbott ceased its directed efforts with respect to the applicable Preclinical Program (FTI Program, ED Program or MMPI Program), meaning that Abbott has eliminated the funding for the established research program identified by a core group of researchers dedicated to the applicable Preclinical Program. The continued existence of a researcher separate and apart from such core group shall not affect the determination that a Preclinical Program has ceased.

1.9 "Combination Product" shall mean any product containing one or more Program Compounds combined as a single pharmaceutical product with one or more other therapeutically active ingredients.

1.10 "Commercially Reasonable Efforts" shall mean efforts which are consistent with those normally used by other pharmaceutical companies with respect to other pharmaceutical compounds or products which are of comparable potential commercial value and market potential at a similar stage of development or product life, taking into account, without limitation, issues of safety and efficacy, compound or product profile, proprietary status, the regulatory environment and the status of the compound or product and other relevant scientific factors.

1.11 "Compound Reports" shall have the meaning given in Section 12.2(i).

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1.12 "Confidential Information" shall have the meaning given in Section 10.2.

1.13 "Delivery System Product" shall have the meaning given in paragraph (d) of the definition of Net Sales.

1.14 "Dollars" or "\$" shall mean United States dollars.

1.15 "ED Program" shall mean all of Abbott's discovery efforts to identify compounds (including the identification of pre-clinical and development compounds owned by third parties) which modulate dopamine receptors for the purpose of treating erectile dysfunction.

1.16 "Eisai Agreement" shall mean the License Agreement dated June 29, 2000 between Eisai Co., Ltd. and Abbott related to the Program Compound known as ABT-751.

1.17 "Eisai Territory" shall mean the countries listed on Exhibit 1.17 hereto.

1.18 "Execution Date" shall mean the date set forth in the introductory paragraph to this Agreement.

1.19 [Intentionally Omitted.]

1.20 "FDA" shall mean the U.S. Food and Drug Administration or any successor entity thereto.

1.21 "First Commercial Sale" shall mean the first sale of a Product in a given country by Abbott, its Affiliates or Licensees to an unaffiliated third person after Regulatory Approval has been granted in such country.

1.22 "FTI Program" shall mean all of Abbott's discovery efforts to identify compounds (including the identification of pre-clinical and development compounds owned by third parties) which act as farnesyl transferase inhibitors for the purpose of treating cancer.

1.23 "In-License Agreements" shall mean the Eisai Agreement, the Wakunaga Agreement and the Taisho Agreement.

1.24 "International Territory" shall mean all areas of the world outside the U.S. Territory.

1.25 "Investigational New Drug Application" shall mean an investigational new drug application filed with the FDA in order to commence human clinical testing of a drug in the United States.

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1.26 "Licensee" shall mean any party licensed or otherwise authorized in writing by Abbott, its Affiliates or its licensees to market, distribute or sell Products and from whom Abbott receives a royalty or other payment based upon sales of Products by such party, its affiliates or its licensees (it being understood that a party that is a merely a distributor, wholesaler or similar reseller of Products is not a Licensee hereunder). In no case shall Eisai Co., Ltd. or Taisho Pharmaceutical Co., Ltd. be considered Licensees under the terms of the Eisai Agreement or Taisho Co-Development Agreement with respect to the Eisai Territory or Japan, respectively.

1.27 "Losses" shall mean any claims, demands, liabilities, costs, damages, judgments, settlements and other reasonable expenses (including attorneys' fees).

1.28 "Milestone Payment" shall have the meaning given in Section 6.3.

1.29 "MMPI Program" shall mean all of Abbott's discovery efforts to identify compounds (including the identification of pre-clinical and development compounds owned by third parties) that inhibit matrix metalloproteinase and treat cancer.

1.30 "NDA" shall mean a New Drug Application (as defined by the FDA) filed with the FDA for the purpose of obtaining Regulatory Approval of a Product in the U.S. Territory.

1.31 "Net Sales" shall mean:

- (a) the total gross sales of the Products (or, for purposes of clauses (b) and (c), the Bundled Products and Combination Products), in each case as set forth on the invoices for such sales by Abbott, its Affiliates and Licensees to unaffiliated third parties in any given period, plus, if applicable, the fair market value of all properties and services received in consideration of a sale of the Products (or, for purposes of clauses (b) and (c), the Bundled Products and Combination Products) by Abbott, its Affiliates and Licensees to unaffiliated third parties during such period, less the following deductions directly paid or actually incurred by Abbott, its Affiliates or Licensees during such period with respect to the sale of the Products (or, for purposes of clauses (b) and (c), the Bundled Products and Combination Products) to the extent included in the gross invoiced sales price therefor:
 - (i) discounts, credits, rebates, allowances, adjustments, rejections, recalls and returns;
 - (ii) price reductions or rebates, retroactive or otherwise, imposed by government authorities;
 - (iii) sales, excise, turnover, inventory, value-added and similar taxes assessed on the royalty-bearing sale of Products;

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- (iv) transportation, importation, insurance and other handling expenses directly chargeable to the royalty-bearing sale of Products;
 - (v) charge backs granted to unaffiliated drug wholesalers; and
 - (vi) the portion of management fees paid to unaffiliated group purchasing organizations that relate specifically to the royalty-bearing sale of Products.
- (b) With respect to a Product which is sold together with any other products and/or services in a country at a unit price, whether packaged together or separately (a "Bundled Product"), the Net Sales of such Bundled Product shall first be calculated in accordance with the definition of Net Sales under paragraph (a), and then the Net Sales of such Bundled Product shall be determined on a country-by-country basis as follows:
- (i) multiply the Net Sales of such Bundled Product in such country by the fraction $A/(A+B)$ where A is the average selling price of such Product in such country when sold separately and B is the total of the average selling prices in such country of each such other product(s) and/or service(s) in such Bundled Product when sold separately; or
 - (ii) if (x) either the average selling price of such Product or the total of the average selling prices of each such other products and/or services in such Bundled Product in such country is not available as of such date or (y) such Product is not sold separately in such country, multiply the Net Sales of such Bundled Product in such country by a percentage determined by the mutual agreement of the Parties which represents the proportionate economic value in such country of such Product relative to the economic value in such country contributed by the other products and/or services in such Bundled Product.
- (c) With respect to a Combination Product, the Net Sales of such Combination Product shall first be calculated in accordance with the definition of Net Sales under paragraph (a), and then the Net Sales of such Combination Product shall be determined on a country-by-country basis as follows:
- (i) multiply the Net Sales of such Combination Product in such country by the fraction $A/(A+B)$, where A is the total of the average selling prices of the Program Compounds in such

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Combination Product when sold separately in such country and B is the total of the average selling prices of each other therapeutically active ingredient when sold alone as a pharmaceutical product in such country; or

- (ii) if (x) either the average selling price of all Program Compounds in such Combination Product or the total of the average selling prices of each other therapeutically active ingredient in such Combination Product in such country is not available or (y) such Program Compounds are not sold separately in such country, multiply the Net Sales of such Combination Product by a percentage determined by mutual agreement of the Parties, which represents the proportionate economic value in such country of all Program Compounds in such Combination Product relative to the economic value in such country contributed by all other therapeutically active ingredients in such Combination Product.
- (d) For purposes of this paragraph (d), a "Premium Delivery System" means any delivery system comprising device(s), equipment, instrumentation or other non-ingestible components (but not solely containers or packaging) designed to assist in the administration of a Product, such as the Abbott ADD-Vantage® System. With respect to a Product which is sold together with a Premium Delivery System (a "Delivery System Product") in a country at a unit price, the Net Sales of such Delivery System Product shall first be calculated in accordance with the definition of Net Sales under paragraph (a), and then the Net Sales of such Product shall be determined on a country-by-country basis as follows:
- (i) if the Product is sold separately without the Premium Delivery System in a country, reduce the Net Sales of such Delivery System Product in such country by the amount that the average selling price of the Delivery System Product in such country exceeds the average selling price of such Product as sold separately in such country; or
 - (ii) if the Product is not sold separately without the Premium Delivery System in such country, reduce Net Sales of such Delivery System Product by an amount, determined by mutual agreement of the Parties, which represents the proportionate economic value in such country added by the Premium Delivery System.
- (e) Net Sales shall not include any sales of Products containing one Program Compound (and no other Program Compound) known as (i) ABT-751 by Eisai Co. Ltd., its affiliates or licensees in the Eisai Territory or (ii) ABT-

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773 by Taisho Pharmaceutical Co., Ltd., its affiliates or licensees in Japan. Notwithstanding the foregoing sentence, Net Sales shall include in all instances sales by such parties of such products that are outside such territories, respectively.

1.32 "Parties" shall mean Abbott and John Hancock.

1.33 "Patents" shall have the meaning set forth in Section 12.2(e).

1.34 "Phase I Clinical Trial" shall mean a clinical trial of a Program Compound which utilizes a limited number of human beings preliminarily to address safety and to determine what doses can be safely tolerated.

1.35 "Phase II Clinical Trial" shall mean a controlled clinical trial, the primary objective of which is to ascertain additional data regarding the safety and tolerance of one of the Program Compounds and preliminary data regarding such Program Compound's efficacy.

1.36 "Phase III Clinical Trial" shall mean one or a series of controlled pivotal studies of a specific Program Compound by administration of such Program Compound to human beings where the principal purpose of such trial is to provide confirmatory safety and efficacy data necessary to support the filing for Regulatory Approval of a Product.

1.37 "Preclinical Programs" shall mean the following preclinical and clinical programs with potential backup compounds in accordance with Section 4.3(a): the FTI Program, the ED Program and the MMPI Program.

1.38 "Premium Delivery System" shall have the meaning given in paragraph (d) of the definition of Net Sales.

1.39 "Product" shall mean any product containing one or more of the Program Compounds as an active ingredient, alone or in combination with other active ingredients (including any Bundled Product and any Combination Product).

1.40 "Program Compounds" shall mean (i) the compounds listed on Exhibit 1.40; (ii) the first compound (the selection of which shall be consistent with Abbott using Commercially Reasonable Efforts) from each of the Preclinical Programs to enter Phase I Clinical Trial; (iii) any compounds or products substituted or added by Section 4.3; (iv) all line extensions and formulations of the foregoing; and (v) all analogs, isomers, improvements, derivatives and modifications of the foregoing unless such analog, isomer, improvement, derivative or modification would be considered a new chemical entity and required by the FDA to reenter Phase I Clinical Trial. A compound or product shall be considered a Program Compound regardless of the indication for which it is used.

1.41 "Program Inventions" shall have the meaning given in Section 5.1.

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1.42 "Program Payments" shall have the meaning given in Section 3.1.

1.43 "Program Related Costs" shall mean (i) all direct and indirect costs and expenses that are incurred by Abbott on the Research Program during a given Program Year and allocated in a manner consistent with Abbott's internal, pharmaceutical products division-wide allocation procedures; and (ii) the milestone and license fees paid during a given Program Year or during any extension period of the Program Term by Abbott to (a) Eisai Co. Ltd. (not to exceed Eighteen Million Dollars (\$18,000,000) in the aggregate with respect to the Program Compound known as ABT-751 pursuant to the Eisai Agreement) and (b) Wakunaga Pharmaceutical Co., Ltd. (not to exceed Twenty Seven Million Five Hundred Thousand Dollars (\$27,500,000) in the aggregate with respect to the Program Compound known as ABT-492 pursuant to the Wakunaga Agreement). Any payments made by Abbott to John Hancock pursuant to Sections 6.2 and 6.3(a), (b), (c), (d) and (e) shall constitute Program Related Costs. Any payment made by Abbott to John Hancock pursuant to Section 6.3(f) shall not constitute Program Related Costs. Set forth on Exhibit 1.43 is an example of the calculation of Program Related Costs for a particular Program Compound.

1.44 "Program Term" shall mean a period of four (4) consecutive Program Years.

1.45 "Program Year" shall mean a period of twelve (12) consecutive calendar months commencing on January 1 of each year, except that the first Program Year shall commence on the Execution Date and end on December 31, 2001.

1.46 "Quarterly Reporting Period" shall mean the calendar quarter with respect to the U.S. Territory together with the fiscal quarter ending on the final day of February, May, August and November (as the case may be) with respect to the International Territory. For example, the Quarterly Reporting Period that comprises the second calendar quarter with respect to the U.S. Territory also includes the period from March 1 through May 31 with respect to the International Territory. If Abbott adopts the calendar year as its fiscal year for the International Territory, then the Quarterly Reporting Period for the International Territory shall also be the calendar quarter.

1.47 "Research Program" shall mean all of Abbott's, its Affiliates' and Subcontractors' activities directed towards obtaining Regulatory Approval for the Products, including research, development, safety and efficacy studies, clinical trials, process development, formulation work, regulatory, quality, data collection and analysis and project management.

1.48 "Regulatory Approval" shall mean: (i) with respect to the U.S. Territory, the receipt of approval from the FDA to market a Product in the U.S. Territory; and (ii) with respect to any country in the International Territory, receipt of the governmental approvals required to market a Product in such country, including any pricing and reimbursement authorization required in such country.

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1.49 "Replacement Compound" shall mean a compound (i) made available to Abbott as a result of any transaction involving Abbott or its Affiliates (whether by merger, acquisition or sale of assets or equity, or by license or otherwise), (ii) used for the same class of indications as the Ceased Compound (for example, anti-infectives, cancer, cardiovascular or pain), and (iii) having at least the current and projected potential commercial value to John Hancock as the Ceased Compound.

1.50 "Royalty Term" shall mean, with respect to each Product in each country, a period of ten (10) years from the later of (x) the date of First Commercial Sale of such Product in such country and (y) the two year anniversary of the Execution Date; provided that (i) the obligation to make royalty payments on the Product shall not begin until the two-year anniversary of the Execution Date (and only with respect to Net Sales occurring on or after such date) and (ii) Abbott's obligation to make royalty payments shall cease on December 31, 2015.

1.51 "Subcontractor" shall have the meaning given in Section 2.4.

1.52 "Taisho Agreement" shall mean the Co-Development Agreement dated September 30, 1997 between Taisho Pharmaceutical Co., Ltd. and Abbott related to the Program Compound known as ABT-773.

1.53 "Territory" shall mean both the U.S. Territory and the International Territory, excluding the Eisai Territory with respect to the Program Compound known as ABT-751.

1.54 "U.S. Territory" shall mean the United States of America, excluding Puerto Rico and the U.S. Virgin Islands.

1.55 "Wakunaga Agreement" shall mean the License Agreement dated December 1, 1999 between Wakunaga Pharmaceutical Co., Ltd. and Abbott related to the Program Compound known as ABT-492.

ARTICLE 2 ANNUAL RESEARCH PROGRAM

2.1 Research Program Term. The Research Program shall be conducted by Abbott during the Program Term, and beyond the Program Term until Abbott either abandons development in accordance with the terms hereof or receives Regulatory Approval for each Program Compound, or some combination thereof.

2.2 Research Plan. The Research Program shall be conducted by Abbott in each Program Year in accordance with the Annual Research Plan for such Program Year. The Annual Research Plan will be provided to John Hancock until Abbott either abandons development in accordance with the terms hereof, or receives Regulatory Approval for, each Program Compound in the U.S. Territory, or some combination thereof. The Annual Research Plan shall be prepared

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by Abbott and presented to John Hancock at least forty-five (45) days prior to the start of each Program Year. The first Annual Research Plan is attached as Exhibit 1.6. Abbott may modify the Annual Research Plan from time to time in order to best meet the objectives of the Research Program. Any such modifications to the Annual Research Plan shall be promptly provided to John Hancock. In addition, Abbott shall provide an Annual Research Plan for each year after the end of the Program Term as long as there is an active research program for any Program Compounds.

2.3 Conduct of Research. Abbott shall use Commercially Reasonable Efforts to conduct the Research Program in good scientific manner and using good laboratory practices, to achieve the objectives of the Research Program efficiently and expeditiously and to comply with all applicable laws and regulations. Notwithstanding anything in this Agreement to the contrary, Abbott does not represent, warrant or guarantee that the Research Program will be successful in whole or in part or result in the registration or commercialization of any pharmaceutical products or that any Products obtaining Regulatory Approval will be a commercial success.

2.4 Subcontracting Research. Abbott may subcontract or outsource to Affiliates or third persons (each, a "Subcontractor") any portion of the Annual Research Plan. Consistent with Abbott's past practices, each Subcontractor shall enter into a confidentiality agreement with Abbott and agreements pursuant to which such Subcontractor is required to comply with all applicable laws and regulations, including conducting the Research Program in good scientific manner and using good laboratory practices, with respect to its work on the Research Program. Abbott shall supervise and be responsible under this Agreement for the work of each such Subcontractor on the Research Program and no subcontracting or outsourcing shall relieve Abbott of any of its obligations hereunder.

2.5 Research Reports and Records. Abbott shall, no later than thirty (30) days before the last day of each Program Year, provide John Hancock with a reasonably detailed report setting forth the status of the Research Program and all Program Related Costs expended by Abbott during such Program Year. The Program Related Costs set forth in such report may include good faith estimates with respect to the last three (3) months of the Program Year, provided that the report under this Section 2.5 for the following Program Year contains the actual Program Related Costs for that three (3) month period. Such report shall also contain such other information related thereto as John Hancock may reasonably request from time to time. Abbott shall, and shall cause each Subcontractor to, maintain complete and accurate records, in sufficient detail and in good scientific manner appropriate for patent and regulatory purposes and for purposes of demonstrating compliance with the terms hereof, that fully and properly reflect all work done, results achieved and Program Related Costs expended in performance of the Research Program. The books and records of Abbott and each Subcontractor related to the Research Program, including, without limitation, those related to the expenditure of Program Related Costs, shall be subject to copying, inspection and audit by (and at the expense of) John Hancock at any time and from time to time. Such audit shall occur upon reasonable notice and during normal business hours by an independent auditor selected by John Hancock and reasonably acceptable to Abbott. John Hancock and its independent auditor shall maintain such

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records and information of Abbott in confidence in accordance with Article 10 and shall not use such records or information except to the extent permitted by this Agreement, including any enforcement of the provisions hereof. In the event that such audit reveals any material breach of Abbott's responsibilities hereunder, Abbott shall (i) pay the reasonable fees and expenses charged by such auditor, and (ii) fully and promptly cure such breach.

ARTICLE 3 RESEARCH FUNDING

3.1 John Hancock Program Payments. John Hancock shall make the following installment payments on the applicable payment date (the "Payment Date"), for the applicable Program Year, to Abbott to help support the Research Program (the "Program Payments"):

<u>Payment Date</u>	<u>Amount</u>	<u>Program Year</u>
December 1, 2001	\$50,000,000	First
December 1, 2002	\$54,000,000	Second
December 1, 2003	\$58,000,000	Third
December 1, 2004	\$52,000,000	Fourth

All Program Payments shall be expended by Abbott on Program Related Costs and for no other purpose. If John Hancock has not received at least thirty (30) days prior to the Payment Date both (i) the Annual Research Plan for such year and (ii) the report described in Section 2.5 for the previous Program Year, then John Hancock's obligation to make the Program Payment due on such Payment Date shall be suspended until thirty (30) days have elapsed from the date of John Hancock's receipt of both such Annual Research Plan and report.

3.2 Abbott Funding Obligation. Abbott shall spend on Program Related Costs: (i) during each Program Year, at least the Annual Minimum Spending Target for such Program Year and (ii) at least the Aggregate Spending Target during the Program Term. John Hancock's sole and exclusive remedies for Abbott's failure to fund the Research Program in accordance with this Section 3.2 (but not for any other breach of Abbott's other obligations hereunder) are set forth in Sections 3.3 and 3.4.

3.3 Carryover Provisions. Abbott shall be permitted to change its funding obligations under Section 3.2 only as follows:

- (a) If in any Program Year Abbott spends on Program Related Costs, the full amount of the Program Payment provided by John Hancock for such Program Year, but does not spend the full amount of the Annual Minimum Spending Target for such Program Year (including any Annual Carryover Amounts from any prior Program Years), Abbott will spend on Program Related Costs the difference between its expenditure on Program Related Costs for such Program Year and the Annual Minimum Spending Target

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for such Program Year (the "Annual Carryover Amount") in the subsequent Program Year. John Hancock's obligation to make any Program Payment for such subsequent Program Year, if any, pursuant to Section 3.1, shall be deferred until the time that Abbott has spent and notifies John Hancock that it has spent the Annual Carryover Amount in such subsequent Program Year; and

- (b) If Abbott does not expend on Program Related Costs the full amount of the Aggregate Spending Target during the Program Term, Abbott will expend the difference between its expenditures for Program Related Costs during the Program Term and the Aggregate Spending Target (the "Aggregate Carryover Amount") on Program Related Costs during the subsequent year commencing immediately after the end of the Program Term. If Abbott does not spend the Aggregate Carryover Amount on Program Related Costs during such subsequent year, Abbott will pay to John Hancock one-third of the Aggregate Carryover Amount that remains unspent by Abbott, within thirty (30) days after the end of such subsequent year.

3.4 Termination of John Hancock's Program Payment Obligation. If Abbott: (i) abandons development of all Preclinical Programs and Program Compounds in any Program Year during the Program Term (it being understood that such abandonment need not occur entirely in one Program Year); (ii) does not expend on Program Related Costs during any Program Year the full amount of the Program Payment made by John Hancock for such Program Year; (iii) does not reasonably demonstrate in its Annual Research Plan, its intent and reasonable expectation to expend on Program Related Costs during the next Program Year an amount in excess of the Program Payment to be provided by John Hancock for such year; or (iv) does not reasonably demonstrate in its Annual Research Plan its intent and reasonable expectation to expend on Program Related Costs during the Program Term an amount in excess of the Aggregate Spending Target, John Hancock's obligation to make any remaining Program Payments for any succeeding Program Years pursuant to Section 3.1 shall terminate. For the avoidance of doubt, the Program Payments for the Program Year in which such event occurs shall still be due and payable, adjusted only as set forth in the next sentence, if applicable. In addition, in the case of either (i) or (ii) above, Abbott shall (not later than the 10th day following such event) pay to John Hancock (x) the amount, if any, by which the Program Payment made by John Hancock for such year (in the case of (i) above meaning the Program Year in which all Preclinical Programs and Program Compounds were finally abandoned), if any, exceeds one-half of the Program Related Costs actually spent by Abbott during that Program Year and (y) such additional amount that, after giving effect to the payments referred to in this sentence, causes the Program Related Costs for all years in the Program Term to date to have been funded one-third (1/3) by John Hancock and two-thirds (2/3) by Abbott.

3.5 Hancock Funding Obligation. John Hancock's entire obligation hereunder shall be limited to providing the Program Payments set forth in Section 3.1. Abbott shall be solely

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responsible for funding all Program Related Costs in excess of the Program Payments from John Hancock.

ARTICLE 4 PRODUCT RESEARCH AND DEVELOPMENT

4.1 Commercially Reasonable Efforts. Abbott shall be solely responsible for the clinical development, government approval, manufacturing, marketing, sales and distribution of Products. Abbott will use, and will cause each of its Affiliates and Licensees to use, Commercially Reasonable Efforts to pursue the clinical development, government approval, manufacturing, marketing, sales and distribution of Products throughout the Territory. The obligations of Abbott, its Affiliates and Licensees with respect to any Product under this Article 4 are expressly conditioned upon the safety, efficacy and commercial feasibility of each Product, consistent with using Commercially Reasonable Efforts, but no license, assignment or other transfer of rights by Abbott will modify or reduce Abbott's obligations hereunder (except as set forth in Article 14). It is the parties' expectation that under normal circumstances Abbott will file for Regulatory Approval with respect to each Product in Europe within two (2) years from the date of the NDA filing for such Product in the U.S. Territory and in Japan within five (5) years from such NDA filing date; provided, however, that these time frames may be extended or otherwise altered based upon unforeseen circumstances that legitimately impact such regulatory filings in such foreign jurisdictions.

4.2 Marketing and Sale Responsibility. Without limiting the generality of Section 4.1, within six (6) months of obtaining Regulatory Approval for a Product in a given country, Abbott, its Affiliates or Licensees shall commence to market and sell such Product in such country. Abbott's obligation to market and sell a Product shall not apply to a Product in any country if Abbott has not commenced or has ceased marketing and selling such Product in such country substantially on account of adverse business or financial conditions caused by the regulatory authorities or other governmental authorities of such country (including not commencing marketing and selling in a country where the regulatory authorities have price or reimbursement approval and the price or reimbursement approval or that proposed by the regulatory authorities or government authorities is unacceptable to Abbott) which causes the marketing and sale of such Product in such country to be contrary to the financial best interests of John Hancock and Abbott; provided, however, that Abbott, its Affiliates or Licensees shall commence or resume marketing and sale of such Product in such country as soon as reasonably practical after such adverse business or financial conditions cease to exist.

4.3 Failure of Program Compound to Progress.

- (a) Preclinical Programs: ED Program, FTI Program and MMPI Program.
With respect to any Program Compound resulting from a Preclinical Program that Abbott ceases to develop past Phase I Clinical Trial (i.e., does not enter a Phase II Clinical Trial) (a "Failed Early Stage Program

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Compound"), for which Abbott or its Affiliates has or will have one or more other compounds in such respective Preclinical Program (which includes all in-licensed compounds not yet approved for marketing), the next compound to enter Phase I Clinical Trials from such Preclinical Program shall be considered a Program Compound in all respects hereunder, as of the date of the cessation of such Failed Early Stage Program Compound; provided however, with respect to each Preclinical Program, there shall be no more than three Program Compounds substituted under this Section 4.3(a) (for an aggregate maximum of nine (9) such substitutions for all Preclinical Programs). At the time a Preclinical Program becomes a Ceased Program, Abbott shall have no further obligation to provide a substitute for a Failed Early Stage Program Compound.

- (b) Failure of ABT-492 or ABT-510 to Yield a Compound that Enters a Phase II Clinical Trial. If (i) ABT-492 fails to enter a Phase II Clinical Trial, or (ii) ABT-510 fails to enter a Phase II Clinical Trial, then within six (6) months after the failure of the first such Program Compound to enter a Phase II Clinical Trial, Abbott shall substitute a compound in a Phase II Clinical Trial having a commercial value not less than that currently expected for ABT-492 and ABT-510, respectively (as of the date of execution of this Agreement).
- (c) Cessation as a Result of an Acquired Replacement Compound. If Abbott ceases or substantially ceases developing, marketing or selling any Program Compound (that is in Phase I or beyond) or Product (a "Ceased Compound"), and if such cessation or substantial cessation is a result of Abbott's acquisition of a Replacement Compound, then the Replacement Compound shall be considered a Program Compound and/or Product from the date of such acquisition and the Ceased Compound shall no longer be considered a Program Compound.

In the event that the Replacement Compound has been approved for marketing by the FDA and the Ceased Compound has not been approved for marketing by the FDA as of the date of such acquisition, Section 4.3(d) shall apply and the first paragraph of this Section 4.3(c) shall not apply.

In the event that the Ceased Compound has been approved for marketing by the FDA as of the date of such acquisition, John Hancock shall have the option, in its sole discretion, to have Abbott maximize the commercial value of the Ceased Compound pursuant to Section 4.3(d) instead of having the Ceased Compound be subject to this Section 4.3(c).

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- (d) Cessation for Reasons Other than Section 4.3(c). If a Program Compound (that is in Phase I or beyond) or Product becomes a Ceased Compound for any reason not as a result of the acquisition of a Replacement Compound as set forth in Section 4.3(c) above and provided that such Ceased Compound has commercial value, then
- (i) as soon as is practicable Abbott shall maximize the commercial value, if any, of the Ceased Compound to both parties by out-licensing or divesting such Ceased Compound to a third party; provided, however, if the out-licensing or divestiture of such Ceased Compound requires the approval of Taisho Pharmaceutical Co., Ltd. (in the case of Program Compound ABT-773), Eisai Co., Ltd. (in the case of Program Compound ABT-751) or Wakunaga Pharmaceutical Co., Ltd. (in the case of Program Compound ABT-492), pursuant to the respective In-License Agreement, and such entity does not grant such approval, then Abbott shall within a reasonable period of time but not more than three months substitute a compound (which shall thereupon become a "Program Compound") having at least the current and projected potential commercial value as such Ceased Compound;
 - (ii) John Hancock shall be permitted (but have no obligation) to assist in such out-license and/or divestiture effort; and
 - (iii) Abbott shall remunerate John Hancock based on the sales of such Ceased Compound by the third party that has acquired or licensed the Ceased Compound (the "Acquirer") in a manner most consistent with the allocation that would have applied hereunder had such Ceased Compound not been so out-licensed or divested, i.e., in accordance with the royalties and milestones payable hereunder. The appropriate royalty rate payable to John Hancock shall be determined by adding the Acquirer's Net Sales of the Ceased Compound to the total Net Sales of other Products.
- (e) Divestiture. Notwithstanding anything herein to the contrary, Abbott shall not divest or out-license any Program Compound (which shall mean a sale, license or other transfer by Abbott of the right to develop, market and sell any Product containing such Program Compound either (i) in all of North America or (ii) in the countries of Japan and/or the European Union that have at least two-thirds of the total population of Japan and the European Union), without John Hancock's prior written consent, which consent shall not be unreasonably withheld; provided however, if such Program Compound is being divested as a result of direction from the

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Federal Trade Commission to so divest, John Hancock's written consent shall not be required.

- (f) Notice and Information. Abbott shall promptly notify John Hancock upon occurrence of any decision by Abbott to cease or substantially cease developing, marketing or selling any Program Compound or Product. In addition, Abbott shall provide to John Hancock all information reasonably requested by John Hancock related to any Replacement Compound, Program Compound, or Product that is subject to the provisions of this Section 4.3.
- (g) Commercially Reasonable Efforts. Nothing in this Section 4.3 shall lessen any of Abbott's other obligations under this Agreement nor permit Abbott to perform in any manner that is not clearly consistent with using its Commercially Reasonable Efforts hereunder.

4.4 Arm's-Length. Abbott shall not research, develop, manufacture, market, sell, distribute, out-license or otherwise treat any Program Compounds or Products differently, as compared to any other Abbott compounds or products, on account of any of John Hancock's rights hereunder. Furthermore, all distribution agreements, licenses, out-licenses and other agreements relating to the research, development, manufacturing, marketing, sale, distribution, licensing, out-licensing or divestiture of and all other transactions involving any Program Compounds or Products to or with any third party (except to Abbott's Affiliates) shall be on arm's-length terms and conditions.

4.5 In-License Agreements. Abbott shall comply in all material respects with the terms and conditions of the In-License Agreements. Abbott shall not amend the In-License Agreements or waive any of its rights thereunder without John Hancock's prior written consent (such consent not to be unreasonably withheld), unless such amendment or waiver does not have and would not have a material adverse effect on John Hancock's interests hereunder. To the extent that Abbott or any of its Affiliates obtains the right to market, distribute or sell Products containing the Program Compound known as ABT-751 in the Eisai Territory, then sales by Abbott, its Affiliates and Licensees of such Products in such territory shall be included in all respects hereunder (including without limitation in Net Sales and the Territory).

ARTICLE 5 PROGRAM INVENTIONS

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5.1 Ownership. As between Abbott and John Hancock, all inventions, innovations, ideas, discoveries, technology, know-how, methods, data, applications and products (in each case whether or not patentable) arising from the Research Program or otherwise related to the Program Compounds (collectively, the "Program Inventions") shall be exclusively owned by or assigned to Abbott. Abbott shall not divest, out-license or otherwise transfer any of its right, title

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or interest in or to any Program Inventions which would prevent or impair Abbott's ability to fulfill its obligations to John Hancock under this Agreement.

5.2 Patent Prosecution and Maintenance. To the extent it owns a Program Invention or has the contractual right to pursue patent protection for a Program Invention, Abbott will use Commercially Reasonable Efforts to obtain patent protection for the Program Inventions in the Territory. As between Abbott and John Hancock, Abbott shall be responsible for all costs and expenses and control all decisions related to pursuing such patent protection, including the preparation, filing (foreign and/or domestic), prosecution, issuance and maintenance of patent applications or patents covering Program Inventions.

5.3 Enforcement. As between Abbott and John Hancock, Abbott shall have the sole right and authority to enforce the patents or any other rights arising from the Program Inventions (including without limitation the Patents) against any infringers. If Abbott initiates any action or lawsuit to enforce such patents or other rights, it shall be solely responsible for the cost and expense thereof. Abbott will promptly notify John Hancock at such time as it becomes aware of any infringement activities and of any such enforcement actions or lawsuit, and Abbott will provide information concerning them as reasonably requested by John Hancock. All moneys recovered upon the final judgment or settlement of any such action or lawsuit, less the out-of-pocket cost and expense thereof, shall be allocated between Abbott and John Hancock proportional to Abbott's lost profits and John Hancock's lost royalties as a result of such infringement.

ARTICLE 6

MILESTONE PAYMENTS TO JOHN HANCOCK

6.1 [Intentionally omitted].

6.2 Management Fee. On December 1, 2002, 2003 and 2004, Abbott shall pay to John Hancock a management fee, each of which shall be in the amount of Two Million Dollars (\$2,000,000).

6.3 Milestone Notification and Payments. Abbott shall promptly notify John Hancock of the occurrence any of the following events that give rise to Abbott's obligation to make a payment pursuant to this Section 6.3 (each, a "Milestone Payment"). Except as hereinafter limited, Abbott shall pay the following Milestone Payments to John Hancock in the amounts and at the times set forth below with respect to each Program Compound:

- (a) One Million Dollars (\$1,000,000) shall be paid within thirty (30) days after the allowance by the FDA of each Investigational New Drug Application for such Program Compound;

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- (b) Two Million Dollars (\$2,000,000) shall be paid within thirty (30) days after the initiation of each Phase I Clinical Trial with such Program Compound;
- (c) Three Million Dollars (\$3,000,000) shall be paid within thirty (30) days after the initiation of each Phase II Clinical Trial with such Program Compound;
- (d) Four Million Dollars (\$4,000,000) shall be paid within thirty (30) days after the initiation of each Phase III Clinical Trial with such Program Compound; and
- (e) Five Million Dollars (\$5,000,000) shall be paid within thirty (30) days after the filing of each NDA with the FDA for such Program Compound.

In addition, except as hereinafter limited, Abbott shall pay the following Milestone Payments to John Hancock in the amounts and at the times set forth below:

- (f) (i) Twenty Million Dollars (\$20,000,000) shall be paid within thirty (30) days after the Regulatory Approval of the first Product in the U.S. Territory;
- (ii) Ten Million Dollars (\$10,000,000) shall be paid within thirty (30) days after the Regulatory Approval of the second Product in the U.S. Territory; and
- (iii) Ten Million Dollars (\$10,000,000) shall be paid within thirty (30) days after the Regulatory Approval of third Product in the U.S. Territory.

The aggregate of Milestone Payments under Section 6.3(a), (b), (c), (d), and (e) for all Program Compounds shall be limited to Eight Million Dollars (\$8,000,000), and once such aggregate limit has been paid, no further payments shall be due and payable under Sections 6.3(a), (b), (c), (d) or (e).

The aggregate of Milestone Payments under Sections 6.3(a), (b), (c), (d) and (e) for all Program Compounds shall be limited to zero dollars (\$0) during the first Program Year, Two Million Dollars (\$2,000,000) during the second Program Year, and Six Million Dollars (\$6,000,000) during the third Program Year, and once such annual limit has been reached for these particular Program Years, no further payments shall be due under Sections 6.3(a), (b), (c), (d) and (e) for the remainder of such Program Year; provided that any amounts that would have been due to John Hancock but for such annual limits shall be paid in subsequent Program Years so long as the Program Compound to which it relates has not been abandoned, divested or out-licensed by Abbott, subject to the Eight Million Dollar (\$8,000,000) limitation set forth above. Subject to

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the limitations above, the Milestone Payments under Sections 6.3(a), (b), (c), (d) and (e) may be made more than once with respect to each Program Compound.

The aggregate of Milestone Payments under Section 6.3(f) for all Program Compounds shall be limited to Forty Million Dollars (\$40,000,000), and once such aggregate limit has been paid, no further payments shall be due and payable under Section 6.3(f). In addition, Milestone Payments under Section 6.3(f) shall not be paid more than once for any particular Program Compound.

Exhibit 1.40 sets forth the current stage of clinical development for each Program Compound.

ARTICLE 7 ROYALTIES

7.1 Royalty Rates. Subject to the limitation set forth below, Abbott shall pay to John Hancock royalties equal to the following percentages of Net Sales, aggregated on a yearly basis, of all Products in the Territory:

<u>Royalty percentage</u>	<u>Yearly Net Sales (in millions) of all Products in the Territory</u>
8.5% of those Net Sales	up to \$400
and then 4% of those Net Sales	in excess of \$400 up to \$1,000
and then 1% of those Net Sales	in excess of \$1,000 up to \$2,000
and then 0.5% of those Net Sales	in excess of \$2,000

Net Sales shall be aggregated yearly (i) in the case of the U.S. Territory, on a calendar year basis, together with (ii) in the case of the International Territory, on a December 1 to November 30 basis, in each case consistent with the determination of Quarterly Reporting Periods.

7.2 Royalty Term. The duration of the obligation to make royalty payments on each Product shall be determined on a country-by-country basis and shall last for the duration of the Royalty Term in each given country for such Product.

ARTICLE 8 ROYALTY REPORTS AND ACCOUNTING

8.1 Reports. Exchange Rates. With respect to every Quarterly Reporting Period for which Abbott is obligated to pay any royalty hereunder, Abbott shall furnish to John Hancock a single written report for such Quarterly Reporting Period within sixty (60) days after the end of such Quarterly Reporting Period (that is, within sixty (60) days after each March 31, June 30, September 30 and December 31, as the case may be) showing in reasonably specific detail:

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- (a) the total gross sales in each country for each Product sold by Abbott, its Affiliates and Licensees in the Territory and the detailed calculation of Net Sales from gross sales in each country for each Product;
- (b) the royalties payable in Dollars, if any, which shall have accrued hereunder;
- (c) the dates of the First Commercial Sale of each Product in any country in the Territory during such Quarterly Reporting Period; and
- (d) the exchange rates used in determining the amount of Dollars.

With respect to sales of Products invoiced in Dollars, the gross sales, Net Sales (including all adjustments and deductions permitted to be made hereunder in calculating the same), and royalties payable shall be expressed in Dollars. With respect to sales of Products invoiced in a currency other than Dollars, the gross sales, Net Sales (including all adjustments and deductions permitted to be made hereunder in calculating the same) and royalties payable shall be expressed in their Dollar equivalent, calculated using the Inter Bank rate set forth in the International Report published by International Reports Inc. as Foreign Exchange Rates quoted in New York on the day nearest the last business day of the Quarterly Reporting Period.

8.2 Audits.

- (a) Upon the written request of John Hancock and, in the absence of any breach by Abbott hereunder, not more than once in each calendar year, Abbott shall permit John Hancock and an independent certified public accounting firm of nationally recognized standing, selected by John Hancock and reasonably acceptable to Abbott, at John Hancock's expense, to have access during normal business hours to such of the records of Abbott, its Affiliates and Licensees to verify the accuracy of the royalty reports and the amounts and calculation of any payments required hereunder for any year ending not more than five (5) years prior to the date of such request.
- (b) If such accounting firm concludes that additional royalties or other payments were owed during such period, Abbott shall have the option to invoke the proceedings of Section 16.7 below or pay the additional royalties or other payments within thirty (30) days after the date John Hancock delivers to Abbott such accounting firm's written report so concluding. The reasonable fees and expenses charged by such accounting firm shall be paid by John Hancock; provided, however, if the audit discloses that the amounts payable by Abbott for any Quarterly Reporting Period are more than one hundred five percent (105%) of the royalties

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actually paid for such period, then Abbott shall pay the reasonable fees and expenses charged by such accounting firm.

- (c) Abbott shall cause its Affiliates to, and shall include in each license granted by it relating to a Program Compound or Product a provision requiring the Licensee to, (i) make reports to Abbott, (ii) keep and maintain records of Net Sales made pursuant to such license and (iii) grant access to such records by John Hancock and its accounting firm or other auditor to the same extent required of Abbott under this Agreement.
- (d) All reports and payments not disputed as to correctness by John Hancock within five (5) years after receipt thereof shall thereafter conclusively be deemed correct for all purposes, and Abbott, its Affiliates and Licensees shall be released from any liability or accountability with respect to such reports and payments.

8.3 Confidential Financial Information. John Hancock shall treat all information subject to review under this Article 8, and shall cause its accounting firm to agree to treat all such information, in accordance with the provisions of Article 10.

8.4 Accounting Principles. All accounting hereunder, including without limitation all determinations of gross sales, Net Sales (including all adjustments and deductions permitted to be made hereunder in calculating the same), Program Related Costs and all calculations underlying such determinations, shall be made in accordance with generally accepted accounting principles as in effect in the United States, consistently applied.

ARTICLE 9 PAYMENTS

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9.1 Payment Terms. With respect to every Quarterly Reporting Period for which Abbott is obligated to pay a royalty hereunder, such royalties shall be due and payable in a single payment within sixty (60) days of the end of such Quarterly Reporting Period (that is, within sixty (60) days of each March 31, June 30, September 30 and December 31, as the case may be). Payment of royalties may be made in advance of such due date.

9.2 Payment Method. All royalties and other payments by Abbott to John Hancock under this Agreement shall be made by bank wire transfer in immediately available funds in accordance with the instructions set forth on Exhibit 9.2 attached hereto or in accordance with such other instructions as John Hancock may give from time to time.

9.3 Late Payments. Each party shall pay interest to the other on the aggregate amount of any payments by it that are not paid on or before the date such payments are due under this Agreement, including, without limitation, any disputed payments or payments resulting from any

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audit, at a rate per annum equal to the lesser of (a) the prime rate of interest plus two hundred (200) basis points as reported by Citibank, N.A. in New York, from time to time (with any change in such reported rate being effective immediately for purposes hereof), or (b) the highest rate permitted by applicable law, calculated on the number of days such payments is delinquent until paid in full in cash. All such amounts shall be payable upon demand.

ARTICLE 10 CONFIDENTIALITY

10.1 Nondisclosure Obligations. Except as otherwise provided in this Article 10, during the term of the Agreement and for a period of ten (10) years thereafter, (a) John Hancock shall maintain in confidence in accordance with such procedures as are adopted by John Hancock to protect its own confidential information and shall use only for purposes of this Agreement (including, without limitation, enforcement of the terms hereof), information and data related to the Program Compounds or Products; and (b) John Hancock shall also maintain in confidence in accordance with such policies, and use only for purposes of this Agreement, all information and data supplied by Abbott under this Agreement, which if disclosed in writing is marked "confidential", if disclosed orally is promptly thereafter summarized and confirmed in writing to the other party and marked "confidential", or if disclosed in some other form is marked "confidential."

10.2 Permitted Disclosures. For purposes of this Article 10, information and data described in clause (a) or (b) above shall be referred to as "Confidential Information". John Hancock may disclose Confidential Information as required by applicable law, regulation or judicial process, provided that John Hancock shall, if legally permitted, give Abbott prompt written notice thereof. The obligation not to disclose or use Confidential Information shall not apply to any part of such Confidential Information that (i) is or becomes patented, published or otherwise part of the public domain other than by acts or omissions of John Hancock in contravention of this Agreement; or (ii) is disclosed to John Hancock by a third party, provided such Confidential Information was not obtained on a confidential basis by such third party from Abbott, its Affiliates or Licensees; or (iii) prior to disclosure under the Agreement, was already in the possession of John Hancock, provided such Confidential Information was not obtained directly or indirectly from Abbott, its Affiliates or Licensees under an ongoing obligation of confidentiality; or (iv) is disclosed in a press release agreed to by both parties under Section 10.3 below.

10.3 Publicity Review. Without the prior written consent of the other party, neither party shall make any statement to the public regarding the execution and/or any other aspect of the subject matter of this Agreement and John Hancock shall not make any statement to the public regarding any work under the Research Program; provided that, Abbott may make statements to the public regarding work done under the Research Program (without reference to or mention of John Hancock) and the commercialization of any Products resulting therefrom in accordance with its standard business practices. John Hancock and Abbott shall not disclose any

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terms or conditions of this Agreement to any third party without the prior consent of the other party, except as set forth above in this Section 10.3 or as required by applicable law, regulation or court order. The parties agree not to issue a press release announcing the execution of this Agreement.

ARTICLE 11 TERM AND TERMINATION

11.1 Expiration. This Agreement shall expire upon satisfaction of Abbott's obligations to pay royalties under Section 7.2 and all other amounts under this Agreement.

11.2 Termination; Material Breach. It is the parties' express intent that consideration shall be given to remedying any breach of this Agreement through the payment of monetary damages or such other legal or equitable remedies as shall be appropriate under the circumstances and that there shall only be a limited right to terminate this Agreement under the following circumstances.

- (a) In the event that the court, in accordance with the procedures set forth in Section 16.2, has issued a ruling that John Hancock has breached its obligation under Section 3.1 of this Agreement (obligation to make payments), and such ruling specified the actions to be taken by John Hancock on account of such breach, and John Hancock has failed to comply with the terms of such ruling within the time period specified therein for compliance and the time for any appeal has expired without the submission of an appeal, then, in addition to all other rights available to Abbott under law and equity, including its right to enforce such ruling in court, Abbott shall have the right to terminate the Agreement as a result of John Hancock's failure to abide by the terms of this Agreement and such ruling.
- (b) In the event that the court, in accordance with the procedures set forth in Section 16.2, has issued a ruling that Abbott has breached a material obligation under this Agreement, and such ruling specified the actions to be taken by Abbott on account of such breach, and Abbott has failed to comply with the terms of such ruling within the time period specified therein for compliance and the time for any appeal has expired without the submission of an appeal, then, in addition to all other rights available to John Hancock under law and equity, including its right to enforce such ruling in court, John Hancock shall have the right to terminate the Agreement, each as a result of Abbott's failure to abide by the terms of this Agreement and such ruling.

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11.3 Effect of Expiration or Termination. Expiration or, if applicable, termination of this Agreement shall not relieve the parties of any obligation accruing prior to such expiration or termination. The provisions of Articles 8 (Royalty Reports and Accounting), 10 (Confidentiality), 11 (Term and Termination), 12 (Warranties and Indemnification) and 16 (Miscellaneous) shall survive the expiration or termination of this Agreement.

ARTICLE 12
WARRANTIES AND INDEMNITY

12.1 John Hancock Representations and Warranties. John Hancock represents and warrants to Abbott that as of the Execution Date:

- (a) The execution and delivery of this Agreement and the performance of the transactions contemplated hereby have been duly authorized by all appropriate John Hancock corporate action. This Agreement constitutes John Hancock's valid and binding legal obligation, enforceable against it in accordance with its terms.
- (b) The performance by John Hancock of any of the terms and conditions of this Agreement on its part to be performed does not and will not constitute a breach or violation of its organizational documents or any other material agreement or understanding, written or oral, to which it is a party or any law, statute, rule or regulation by which it is bound.
- (c) No consent, approval, license or authorization of, or designation, declaration or filing with, any court or governmental authority is or will be required on the part of John Hancock in connection with the execution, delivery and performance by John Hancock of this Agreement or any other agreements or instruments executed and delivered by John Hancock in connection herewith or therewith, including, without limitation, any filings pursuant to federal or state securities laws or pursuant to any federal anti-trust laws.
- (d) Neither John Hancock nor any person acting on its behalf (i) has taken or will take any action which would subject this Agreement and the consummation of the transactions contemplated hereby to the registration or qualification requirements of any federal or state securities laws, (ii) has dealt with any broker, finder or other similar person in connection with the transactions contemplated by this Agreement or (iii) is under any obligation to pay any broker's fee, finder's fee or commission in connection with such transactions.

12.2 Abbott Representations and Warranties. Abbott represents and warrants to John Hancock that as of the Execution Date:

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- (a) The execution and delivery of this Agreement and the performance of the transactions contemplated hereby have been duly authorized by all appropriate Abbott corporate action. This Agreement constitutes Abbott's valid and binding legal obligation, enforceable against it in accordance with its terms.
- (b) The performance by Abbott of any of the terms and conditions of this Agreement on its part to be performed does not and will not constitute a breach or violation of its organizational documents or any other agreement or understanding, written or oral, to which it is a party or any law, statute, rule or regulation by which it is bound.
- (c) No consent, approval, license or authorization of, or designation, declaration or filing with, any court or governmental authority is or will be required on the part of Abbott in connection with the execution, delivery and performance by Abbott of this Agreement or any other agreements or instruments executed and delivered by Abbott in connection herewith or therewith, including, without limitation, any filings pursuant to federal or state securities laws or pursuant to any federal anti-trust laws, except those consents, approvals, licenses, authorizations, and other requirements imposed by governmental authorities (both U.S. and foreign) and such declarations and filings with governmental authorities (both U.S. and foreign) required in the normal course of pharmaceutical research, development, marketing and sale.
- (d) Set forth on Exhibit 12.2(d) is the full name, chemical name, detailed description of the stage of development and current status, for each Program Compound. Set forth on Exhibit 1.6 in each Annual Research Plan is a description of projected milestones and dates thereof, projected year of NDA filing, and projected costs to be incurred by Abbott during the Program Term, for each Program Compound. Such projections were prepared in good faith and with due care based on reasonable assumptions, and represent the reasonable estimate of Abbott based on information available as of the date of such projections and as of the date hereof; it being agreed that such projections do not constitute any warranty as to the future performance of the Program Compounds and that actual results may vary from such projections.
- (e) Set forth on Exhibit 12.2(e) is a list and description of all domestic and foreign patents, patent rights, patent applications and all patent applications that are in the process of being prepared that are owned by or registered in the name of Abbott, or of which Abbott is a licensee or in which Abbott has any right, which claim any of the Program Compounds (the "Patents"). Abbott solely owns all of the Patents, except as indicated

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on Exhibit 12.2(e). All of the material Patents have been duly filed in or issued by the United States Patent and Trademark Office or the equivalent foreign patent office identified on Exhibit 12.2(e), as the case may be, and have been properly maintained and renewed in accordance with all applicable laws and regulations. With respect to the Patents that it does not own, Abbott has an exclusive and valid license thereunder to develop, make, have made, use, market and sell (with the right to sublicense) the applicable Program Compounds in the entire Territory; provided however, (i) with respect to Italy, Abbott has such rights that are co-exclusive with Eisai Co. Ltd. for the Program Compound known as ABT-751 and (ii) with respect to Japan, Abbott has such rights that are co-exclusive with Taisho Pharmaceutical Co., Ltd. for the Program Compound known as ABT-773. Except with respect to the Preclinical Programs, to Abbott's knowledge, it is not necessary to obtain or license any patents, patent rights, inventions, copyrights, manufacturing processes, formulae, trade secrets, proprietary rights or know-how that it does not currently have in order to (i) develop, make, have made, use; market and sell the Program Compounds or (ii) conduct the Research Program as heretofore conducted and as proposed to be conducted. Except with respect to those Program Compounds that are the subject of In-License Agreements, the Program Compounds are owned exclusively by Abbott, free and clear of any liens or encumbrances of any other person and, to Abbott's knowledge, Abbott does not require the consent of any other person to develop, make, have made, use, market and sell the Program Compounds.

- (f) Except as set forth in Exhibit 12.2(f) (but in any event, as of the Execution Date, such matters are not, and could not reasonably be expected to be material), Abbott has not received any communications alleging that, and no claim is pending or, to the knowledge of Abbott, threatened to the effect that, the operations of Abbott with respect to the Research Program or the Program Compounds infringe upon or conflict with (or will infringe or conflict with) the asserted rights of any other person under any domestic or foreign patent, trademark, service mark, copyright, trade secret, proprietary right or any other intellectual property right, and, except for the Preclinical Programs, there is no material basis known to Abbott for any such claim (whether or not pending or threatened). No claim is pending or, to the knowledge of Abbott, threatened to the effect that any of the Patents are invalid or unenforceable by Abbott, and there is no material basis known to Abbott for any such claim (whether or not pending or threatened). The publication of any material technical information with respect to the Program Compounds developed by and belonging to Abbott is subject to review and approval under Abbott's existing procedures.
- (g) Except for the In-License Agreements and customary employment and consulting agreements with Abbott's employees and consultants, there are

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no outstanding options, licenses, or agreements of any kind relating to the Patents or any of the Program Compounds or the transactions contemplated by this Agreement, which license the Patents or any technical information developed in the course of the clinical development program to any third party to register, market or sell any of the Program Compounds or Products.

- (h) To the knowledge of Abbott with respect to the Research Program and each of the Program Compounds, Abbott is not now, and in performing its obligations hereunder will not be, in any way making an unlawful or wrongful use of any confidential information, know-how, or trade secrets of any other person.
- (i) Neither this Agreement nor any Exhibit to this Agreement (including the compound reports attached as Exhibit 12.2(i) hereto (the "Compound Reports")) contains any untrue statement of material fact or omits to state any material fact necessary to make the statements contained herein or therein not misleading. There is no fact known to Abbott (other than generally available information concerning the pharmaceutical industry in general) as of the date of this Agreement that has not been disclosed in this Agreement or any Exhibit to this Agreement which has resulted in, or could reasonably be expected to result in, a material adverse effect on the prospects or condition (including safety, efficacy, scientific viability or commercial) of the Research Program or any of the Program Compounds.
- (j) Neither Abbott nor any person acting on its behalf (i) has taken or will take any action which would subject this Agreement and the consummation of the transactions contemplated hereby to the registration or qualification requirements of any federal or state securities laws, (ii) has dealt with any broker, finder or other similar person in connection with the transactions contemplated by this Agreement or (iii) is under any obligation to pay any broker's fee, finder's fee or commission in connection with such transactions.
- (k) Other than generally publicized actions, proceedings or investigations concerning the pharmaceutical industry in general, there is no action, proceeding or investigation pending or, to the knowledge of Abbott, threatened which (i) questions the validity of this Agreement or any action taken or to be taken by Abbott pursuant thereto or (ii) which has resulted in, or could reasonably be expected to result in, a material adverse effect on the prospects or condition (including safety, efficacy, scientific viability or commercial) of the Research Program or any of the Program Compounds.

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- (l) With respect to the Research Program and each of the Program Compounds, Abbott has (and in the future will have) obtained, to the extent permitted by law, from each of its employees, consultants, Affiliates and Subcontractors an agreement that reasonably protects Abbott's interest in the Program Inventions, Program Compounds and Products.
- (m) With respect to each Program Compound, since the date of its respective Compound Report, to the knowledge of Abbott, no condition, circumstance or fact has arisen (other than generally available information concerning the pharmaceutical industry in general) nor has Abbott made any change in the conduct of the Research Program which, individually or in the aggregate, has resulted in, or could reasonably be expected to result in, a material adverse effect on the prospects or condition (including safety, efficacy, scientific viability or commercial) of such Program Compounds.
- (n) Each In-License Agreement is valid, binding and in full force and effect, and there is no event which has occurred or exists, which constitutes or which, with notice and/or the passage of time, would constitute a material default or breach under any such contract by Abbott or, to Abbott's knowledge, any other party thereto, or would cause the acceleration of any obligation of any party thereto or give rise to any right of termination or cancellation thereof. Abbott has no reason to believe that the parties to each In-License Agreement will not fulfill their obligations thereunder in all material respects or that such parties do not have the right to grant the licenses granted thereunder. Abbott has no reason to believe that it will not fulfill its obligations under the In-License Agreements. Under the Eisai Agreement, neither Abbott nor its Affiliates has the right to market, distribute or sell Products containing the Program Compound known as ABT-751 in the Eisai Territory (with the exception of Italy).

12.3 No Conflict. Abbott and John Hancock represent and warrant that this Agreement does not, and will not, conflict with any other right or obligation provided under any other agreement or obligation that Abbott or John Hancock has with or to any third party.

12.4 Compliance with Law. Each party represents and warrants to the other that it will comply with all applicable laws, regulations and guidelines in connection with its performance of its obligations and rights pursuant to this Agreement, including the regulations of the United States and any other relevant nation concerning any export or other transfer of technology, services or products.

12.5 No Other Warranties. EACH PARTY TO THIS AGREEMENT AGREES THAT, EXCEPT FOR THE REPRESENTATIONS AND WARRANTIES CONTAINED IN THIS AGREEMENT, NEITHER PARTY MAKES ANY OTHER REPRESENTATIONS OR

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WARRANTIES, AND EACH HEREBY DISCLAIMS ANY OTHER REPRESENTATIONS OR WARRANTIES MADE BY ITSELF OR ANY OF ITS OFFICERS, DIRECTORS, EMPLOYEES, AGENTS, FINANCIAL AND LEGAL ADVISORS OR OTHER REPRESENTATIVES, WITH RESPECT TO THE EXECUTION AND DELIVERY OF THIS AGREEMENT OR THE TRANSACTIONS CONTEMPLATED BY THIS AGREEMENT, NOTWITHSTANDING THE DELIVERY OR DISCLOSURE TO THE OTHER OR THE OTHER'S REPRESENTATIVES OF ANY DOCUMENTATION OR OTHER INFORMATION WITH RESPECT TO ANY ONE OR MORE OF THE FOREGOING.

12.6 General Indemnification of John Hancock. Abbott shall indemnify and hold John Hancock and its Affiliates, agents, directors and employees harmless, and hereby forever releases and discharges John Hancock and its Affiliates, agents, directors and employees, from and against all Losses related to or arising out of, directly or indirectly, (i) any negligence, recklessness or intentional misconduct of Abbott or its Affiliates, agents, directors, employees, Subcontractors, licensees (including Licensees) or sublicensees in connection with the Research Program, Program Compounds or Products, or (ii) any manufacture, use, storage, distribution or sale of the Program Compounds or Products by anyone, including without limitation all Losses related to any personal injury or death, or (iii) any breach by Abbott of its representations, warranties or obligations hereunder, or (iv) the consummation of the transactions contemplated hereby, except, in each case, to the extent any such Losses are the result of (A) any breach by John Hancock of its representations, warranties or obligations hereunder, or (B) any negligence, recklessness, or intentional misconduct by John Hancock or its Affiliates, agents, directors, employees.

12.7 Indemnification Relating to Certain In-Licensed Compounds. Abbott shall indemnify and hold John Hancock and its Affiliates, agents, directors and employees harmless, and hereby forever releases and discharges John Hancock and its Affiliates, agents, directors and employees, from and against all Losses to the extent related to or arising out of, directly or indirectly, the fact that Abbott's rights in the Program Compounds known as ABT-773, ABT-492 and ABT-751 and the Patents and other patent rights, copyrights, trade secret rights and other intellectual property rights related thereto arise from the Taisho Agreement, the Wakunaga Agreement or the Eisai Agreement respectively, rather than being owned by Abbott as with the other Program Compounds. Accordingly, by way of example and without limiting the foregoing, Abbott's indemnification obligation under this Section 12.7 will arise upon (i) any impairment of Abbott's ability to perform its obligations under this Agreement in the entire Territory as a result of Abbott's rights to the Program Compounds known as ABT-773, ABT-442 and ABT-751 arising from the Taisho Agreement, Wakunaga Agreement and the Eisai Agreement, respectively or (ii) a breach by Abbott or any other person of any of the In-License Agreements; except, in each case, to the extent any such Losses are the result of (A) any breach by John Hancock of its representations, warranties or obligations hereunder, or (B) any negligence, recklessness, or intentional misconduct by John Hancock or its Affiliates, agents, directors, employees.

12.8 Procedure. If John Hancock or any of its Affiliates, agents, directors or employees (each, an "Indemnitee") intends to claim indemnification under this Article 12, it shall

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promptly notify Abbott (the "Indemnitor") of any Loss or action in respect of which the Indemnitor intends to claim such indemnification, and the Indemnitor shall have the right to participate in, and, to the extent the Indemnitor so desires, to assume the defense thereof with counsel selected by the Indemnitor; provided, however, that an Indemnitor shall have the right to retain its own counsel, with the fees and expenses of such counsel to be paid by the Indemnitor, if representation of such Indemnitor by the counsel retained by the Indemnitor would be inappropriate due to actual or potential differing interests between such Indemnitor and any other party represented by such counsel in such proceedings. The indemnity obligation in this Article 12 shall not apply to amounts paid in settlement of any loss, claim, damage, liability or action if such settlement is effected without the consent of the Indemnitor, which consent shall not be withheld unreasonably or delayed. The failure to deliver notice to the Indemnitor within a reasonable time after the commencement of any such action, if materially prejudicial to its ability to defend such action, shall relieve the Indemnitor of any liability to the Indemnitor under this Article 12 only to the extent arising from the tardiness or absence of such notice, but the omission so to deliver notice to the Indemnitor will not relieve it of any liability that it may have to any Indemnitor otherwise than under this Article 12. The Indemnitor shall cooperate fully with the Indemnitor and its legal representatives in the investigation of any action, claim or liability covered by indemnification under this Article 12, at the expense of the Indemnitor.

12.9 Insurance. Abbott shall at its expense maintain, through self-insurance or otherwise, product liability insurance with respect to the development, manufacture, sale and use of Products and Program Compounds in such amounts and on such terms as Abbott customarily maintains with respect to its other similar products. Abbott shall maintain such insurance for so long as it continues to develop, manufacture or sell any Products or Program Compounds, and thereafter for so long as Abbott customarily currently maintains such insurance.

12.10 Acknowledgment. Abbott and John Hancock acknowledge that Abbott has not delivered or disclosed the contents of any of the In-License Agreements to John Hancock.

ARTICLE 13 FORCE MAJEURE

Neither party shall be held liable or responsible to the other party nor be deemed to have defaulted under or breached this Agreement for failure or delay in fulfilling or performing any term of this Agreement when such failure or delay is caused by or results from causes beyond the reasonable control of the affected party including but not limited to fire, floods, embargoes, war, acts of war (whether war be declared or not), insurrections, riots, civil commotions, strikes, lockouts or other labor disturbances, acts of God or acts, omission or delays in acting by any governmental authority; provided that such affected party shall provide the other party with prompt notice of the circumstances surrounding such a material failure or delay, after which the parties will amend this Agreement upon terms and conditions that are mutually agreeable to equitably account to the party that does not so fail or delay.

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ARTICLE 14
ASSIGNMENT

Except as expressly provided hereunder, this Agreement may not be assigned or otherwise transferred, nor may any right or obligations hereunder be assigned or transferred by either party without the consent of the other party; and, in addition, both parties acknowledge and agree that the obligations of Abbott hereunder are personal to Abbott and that Abbott is uniquely qualified to perform them; provided, however, that either party shall be obligated to assign this Agreement and its rights and obligations hereunder in connection with the transfer or sale of all or substantially all of its business, or in the event of its merger or consolidation or change in control or similar transaction and in such event such party shall cause its successor or transferee in such transaction to assume all of the obligations of such party. Any permitted assignee shall assume all obligations of its assignor under this Agreement. Notwithstanding the foregoing, John Hancock shall have the right to assign its rights (but not its obligation to make payments under Section 3.1) in whole or in part (provided that, any assignment in part shall mean an assignment of a pro rata share of the entirety of John Hancock's rights hereunder) without Abbott's consent (and following any such assignment all references to John Hancock herein shall include any such assignee), provided that: (i) each assignee of such rights must be a bank, insurance company or other institutional investor; (ii) there shall be no greater than five (5) assignees; (iii) if any such assignee is located outside the United States John Hancock shall notify Abbott at least sixty (60) days in advance; (iv) if any claim arises with respect to Abbott's failure to make payments, then during the term of the Research Program (but in any event not longer than four years from the date hereof), any such claim must be brought by John Hancock, and not an assignee. In soliciting potential assignees for such right to payments, John Hancock shall not disclose any Confidential Information hereunder to more than ten (10) potential assignees. Any potential assignee to whom John Hancock discloses Confidential Information must have executed a confidentiality agreement no less stringent than Article 10 hereof. Furthermore, if John Hancock plans to exercise its right of assignment hereunder, John Hancock shall first notify Abbott of such plans in writing. Abbott shall have the first right to negotiate the purchase of any such assignment rights. If within fifteen (15) days after receipt of such notice the parties have not agreed upon the principal terms of such arrangement or if within forty-five (45) days after receipt of such notice the parties have not executed a final written agreement reflecting such arrangement, then John Hancock shall have no further obligations to Abbott with respect to such first right of negotiation.

ARTICLE 15
SEVERABILITY

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Each party hereby agrees that it does not intend its execution and delivery hereof or its performance hereunder to violate any public policy, statutory or common laws, rules, regulations, treaty or decision of any government agency or executive body thereof of any country or community or association of countries. If and to the extent any term or provision of this Agreement is held to be invalid, illegal or unenforceable by a court or other governmental

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authority of competent jurisdiction, such invalidity, illegality or unenforceability shall not affect any other term or provision of this Agreement, which shall remain in full force and effect. The holding of a term or provision to be invalid, illegal or unenforceable in a jurisdiction shall not have any effect on the application of the term or provision in any other jurisdiction.

ARTICLE 16
MISCELLANEOUS

16.1 Notices. Any consent, notice or report required or permitted to be given or made under this Agreement by one of the parties hereto to the other shall be in writing, delivered personally or by facsimile (and promptly confirmed by personal delivery, U.S. first class mail or courier), U.S. first class mail or courier, postage prepared (where applicable), addressed to such other party at its address indicated below, or to such other address as the addressee shall have last furnished in writing to the addressor and (except as otherwise provided in this Agreement) shall be effective upon receipt by the addressee.

If to John Hancock: John Hancock Life Insurance Company
200 Clarendon Street, T-57
Boston, MA 02117
Attention: Bond & Corporate Finance Group
Telephone: 617-572-9624
Fax: 617-572-1628

copy to: John Hancock Life Insurance Company
200 Clarendon Street, T-50
Boston, MA 02117
Attention: Investment Law Division
Telephone: 617-572-9205
Fax: 617-572-9268

and, if it relates to making or not making a royalty payment or Milestone Payment hereunder,

copy to: John Hancock Life Insurance Company
200 Clarendon Street
Boston, MA 02117
Attention: Manager, Investment Accounting Division, B-3
Fax: 617-572-0628

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If to Abbott: Abbott Laboratories
Dept. 309, Bldg. AP30
200 Abbott Park Road
Abbott Park, IL 60064-3537
Attention: President, Pharmaceutical Products Division
Telephone: 847-938-6863
Fax: 847-938-5383

copy to: General Counsel
Abbott Laboratories
Dept. 364, Bldg. AP6D
100 Abbott Park Road
Abbott Park, IL 60064-6020
Telephone: 847-937-8905
Fax: 847-938-6277

16.2 Applicable Law. The Agreement shall be governed by and construed in accordance with the internal laws of the State of Illinois. With respect to any action hereunder, Abbott, to the extent that it may lawfully do so, hereby consents to service of process, and to be sued, in the Commonwealth of Massachusetts and consents to the exclusive jurisdiction of the courts of the Commonwealth of Massachusetts and the United States District Court for the District of Massachusetts, as well as to the jurisdiction of all courts to which an appeal may be taken from such courts, for the purpose of any suit, action or other proceeding arising out of any of its obligations hereunder or thereunder or with respect to the transactions contemplated hereby or thereby, and expressly waives any and all objections it may have as to venue in any such courts. Abbott further agrees that a summons and complaint commencing an action or proceeding in any of such courts shall be properly served and shall confer personal jurisdiction if served personally or by certified mail to it at its address for notices as provided in this Agreement or as otherwise provided under the laws of the Commonwealth of Massachusetts. THE PARTIES EACH IRREVOCABLY WAIVE ALL RIGHT TO A TRIAL BY JURY IN ANY SUIT, ACTION OR OTHER PROCEEDING INSTITUTED BY OR AGAINST IT IN RESPECT OF ITS OBLIGATIONS HEREUNDER OR THEREUNDER OR THE TRANSACTIONS CONTEMPLATED HEREBY OR THEREBY.

16.3 Entire Agreement. This Agreement contains the entire understanding of the parties with respect to the subject matter hereof. All express or implied agreements and understandings, either oral or written, with respect to the subject matter hereof heretofore made are expressly merged in and made a part of this Agreement. This Agreement may be amended, or any term hereof modified, only by a written instrument duly executed by both parties hereto.

16.4 Headings. The captions to the several Articles and Sections hereof are not a part of this Agreement, but are merely guides or labels to assist in locating and reading the several Articles and Sections hereof.

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16.5 Independent Contractors. It is expressly agreed that John Hancock and Abbott shall be independent contractors and that the relationship between the two parties shall not constitute a partnership, joint venture or agency. Neither John Hancock nor Abbott shall have the authority to make any statements, representations or commitments of any kind, or to take any action, which shall be binding on the other, without the prior written consent of the other party to do so.

16.6 Performance By Affiliates, Licensees and Subcontractors. The parties recognize that Abbott may carry out certain obligations under this Agreement through performance by its Affiliates, Licensees and Subcontractors (but in no event shall that relieve Abbott of any of its obligations hereunder). Abbott guarantees that the activities of its Affiliates, Licensees and Subcontractors under this Agreement shall comply with this Agreement.

16.7 Dispute Resolution. The parties shall attempt to amicably resolve disputes arising between them regarding the validity, construction, enforceability or performance of the terms of this Agreement, and any differences or disputes in the interpretation of the rights, obligations, liabilities and/or remedies hereunder, which have been identified in a written notice from one party to the other, by good faith settlement discussions between the President of Abbott's Pharmaceutical Products Division and a Managing Director of John Hancock or his designee. The parties agree that, prior to filing any lawsuit regarding any dispute that arises in connection with this Agreement (with the exception of any action demanding a preliminary injunction), such representatives shall meet and attempt to amicably resolve such dispute within thirty (30) days after the receipt of such written notice.

16.8 Waiver. The waiver by either party hereto of any right hereunder or the failure to perform or of a breach by the other party shall not be deemed a waiver of any other right hereunder or of any other breach or failure by said other party whether of a similar nature or otherwise.

16.9 Counterparts. This Agreement may be executed in two or more counterparts, each of which shall be deemed an original, but all of which together shall constitute one and the same instrument.

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IN WITNESS WHEREOF, the parties have executed this Agreement as of the date first set forth above.

JOHN HANCOCK LIFE
INSURANCE COMPANY

ABBOTT LABORATORIES

By: Stephen J. Blewitt
Name: Stephen J. Blewitt
Title: Managing Director
Date: March 13, 2001

By: Jeffrey M. Leiden
Name: Jeffrey M. Leiden, Ph.D., M.D.
Title: Executive Vice President, Pharmaceuticals
and Chief Scientific Officer
Date: March 13, 2001

JOHN HANCOCK VARIABLE
LIFE INSURANCE COMPANY

By: Stephen J. Blewitt
Name: Stephen J. Blewitt
Title: Authorized Signatory
Date: March 13, 2001

INVESTORS PARTNER LIFE INSURANCE
COMPANY

By: Stephen J. Blewitt
Name: Stephen J. Blewitt
Title: Authorized Signatory
Date: March 13, 2001

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EXHIBIT 1.6

FIRST ANNUAL RESEARCH PLAN

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**Kotilide Oral & IV (ABT-773)
Annual Development Plan
Exhibit 1.6**

Therapeutic Area	Antibacterial										
Indications	Adult Tablet: Community-acquired respiratory infections. IV: Step-down therapy in community-acquired hospitalized pneumonia. • ABT-773 is a potent ketolide with strong activity against most macrolide resistant strains, while maintaining the broad spectrum coverage of clindamycin. • Product will be available as tablet and IV formulation. • ABT-773 will address the major unmet medical needs of increasing resistance to current empiric agents, particularly S. pneumoniae. • Maintains clar's claim of "Spans the spectrum" (Gr+, G-, atypicals). • Cover key G+ resistant strains (S. pneumoniae, S. pyogenes). • Tablet dosing is 150mg QD or 150mg BID dosing based on severity of indications. • Tablet: 5 days for ABECB, pharyngitis, 10 days for AMS and CAP. • Incidence of GI side effects equal to clar (assuming comparable drug levels to tablet). • COGS target \$2,500/kg at launch for tablet.										
Description											
Current Time Line	Milestones		Tablet Date		IV Date		Spending		\$		
	Phase I		1Q1997		1Q2001		Project-to-Date-Spending (thru '00)		188.4		
	Phase IIb		3Q1998		N/A		2001 Current Projection (Plan)		91.5*		
	Phase III		4Q2000		4Q2001						
	NDA Filing		3Q2002		2Q2003						
	Launch		1Q2004		2Q2004						
Projected Spending by Year	2000	2001	2002	2003	2004	2005	Total				
	74.1	91.5	69.0	45.0	32.0	22.0	333.6				

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**Endothelin (ABT-627)
Annual Development Plan
Exhibit 1.6**

Therapeutic Area	Oncology	Milestones		Date	Spending				
Indications		Phase I	Phase II	Phase III	2Q1998	4Q1997	4Q2000	2Q2004	4Q2004
Description	<ul style="list-style-type: none"> • Hormone Refractory Prostate Cancer • Potential for use in early Prostate Cancer and other cancer types • ABT-627 is Abbott's leading endothelin antagonist / receptor • ABT-627 is seeking an indication for the treatment of hormone refractory prostate cancer • ABT-627 will probably be used with current therapies • Well tolerated as chronic therapy • Oral administration • No major drug interactions with drugs commonly used in elderly population of hormonal therapy • Demonstrated cost effectiveness at filing 								
Current Time Line					Project-to-Date Spending (thru '00) 2001 Current Projection (Plan)				
					\$ \$ 127.6 35.0*				
Projected Spending by Year	PC* EPCa* FE*	2000	2001	2002	2003	2004	2005	Total	
		13.0	35.0	40.0	33.0	20.0	10.0	154.0	
		N/A	5.0	6.0	5.0	0.0	0.0	17.0	
		N/A	5.0	3.0	0.0	0.0	0.0	8.0	

* See page 2 for detail.

* End of Phase II meeting with FDA just completed. Budget impact still in process plus discussion of other cancer indications ongoing. 2001 range \$35-40 depending on outcome of discussion.

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Endothelin (ABT-627)
2001 Plan Development Cost Summary

2003 Annual Development Cost Summary

Program Status	1998				1999				2000				2001				2002				2003				2004				NDA	Launch		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4								
Phase II																																
Phase III																																
Major Development Activities and Costs																																
Clinical Program																																
European Prostate Cancer Study									Enrollment as of 8/31/00				Start				End				2000 AGU Cost				2001 Plan Cost							
Open Extension of 500 & 594 Studies	204								285				Oct-1997				Dec-2000				\$1,033				...							
Refractory Malignancies	300								199				Jun-1998				Jun-2001				...				...		
Phase III Pivotal Studies	30								34				Jul-1999				Dec-2000				...				...		
Other Studies / EVR	2,000								0				1Q 2001				3Q 2003				\$250				\$16,794							
Venture Management																					\$75				\$18							
Clinical Pharmacology Support (Drug Interaction Studies)																					\$6,447				\$6,361							
Data Management/Statistics																					...				\$518							
																					\$2,156				\$2,691							
																					\$2,961				\$26,382							
Chemistry, Manufacturing, and Controls (CMC)																																
Formulation & Analytical																					2000 AGU				2001 Plan							
Bulk Drug / Process																					\$1,159				\$7,147							
																					\$350				\$1,400							
																					\$1,509				\$8,547							
Drug Safety Support																																
Ongoing Drug Safety support including clinical program support																									2000 AGU				2001 Plan			
																									\$661				\$2,060			
Other Support Costs																																
Discovery																									2000 AGU				2001 Plan			
Medical Affairs																									\$186				\$129			
Regulatory Affairs / Research Quality Assurance																									\$134				\$207			
Other																									\$170				\$215			
Total Program																									\$379				\$460			
																									\$13,000				\$38,000			

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CCM (ABT-594)
Annual Development Plan
Exhibit 1.6

Therapeutic Area	Neuroscience																															
Indications	ABT-594 primary target indication is the treatment of neuropathic pain (NP).																															
Description	<ul style="list-style-type: none">• ABT-594 is a non-opioid, non-NSAID analgesic that is a potent and selective neuronal nicotinic receptor modulator.• ABT-594 is effective in nociceptive pain and neuropathic pain.• ABT-594 is expected to have a better side effect profile than opioids, no tolerance, no abuse, and no DEA scheduling.• Pre clinical data show ABT-594 to be 30 to 100 times more potent and equally efficacious to morphine in treating moderate to severe pain in several well characterized animal models of pain.• ABT-594 has a unique mechanism of action which may enable use in combination with other analgesics as well as monotherapy.• Slow onset of action (approx. 1.5 - 3 hours) at low doses tested may suggest limited utility in acute pain types.• Favorable safety profile.• Oral formulation, BID dosing.																															
Current Time Line	<table><tr><th>Milestones</th><th>Date</th></tr><tr><td>IND Filing</td><td>4Q1998</td></tr><tr><td>Phase I</td><td>3Q1997</td></tr><tr><td>Phase II</td><td>3Q1998</td></tr><tr><td>Phase III</td><td>4Q2001</td></tr><tr><td>NDA Filing</td><td>3Q2003</td></tr><tr><td>Launch</td><td>3Q2004</td></tr></table>		Milestones	Date	IND Filing	4Q1998	Phase I	3Q1997	Phase II	3Q1998	Phase III	4Q2001	NDA Filing	3Q2003	Launch	3Q2004						<table><tr><th>Spending</th><th>\$</th></tr><tr><td>Project-to-Date Spending (thru '00)</td><td>97.3</td></tr><tr><td>2001 Current Projection (Plan)</td><td>35.0*</td></tr></table>		Spending	\$	Project-to-Date Spending (thru '00)	97.3	2001 Current Projection (Plan)	35.0*	* See page 2 for detail.		
Milestones	Date																															
IND Filing	4Q1998																															
Phase I	3Q1997																															
Phase II	3Q1998																															
Phase III	4Q2001																															
NDA Filing	3Q2003																															
Launch	3Q2004																															
Spending	\$																															
Project-to-Date Spending (thru '00)	97.3																															
2001 Current Projection (Plan)	35.0*																															
Projected Spending by Year	2000	2001	2002	2003	2004	2005	Total																									
	14.4	35.0	45.0	32.0	15.0	12.0	153.4																									

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ART-594
2001 Plan Development Cost Summary

2001 Annual Development Cost Summary

Program Status	1997	1998	1999	2000	2001	2002	2003	2004
Phase I	Q1 Q2 Q3 Q4	Q1 Q2 Q3 Q4	Q1 Q2 Q3 Q4	Q1 Q2 Q3 Q4	Q1 Q2 Q3 Q4	Q1 Q2 Q3 Q4	Q1 Q2 Q3 Q4	Q1 Q2 Q3 Q4
Phase II								
Phase III								
								Launch

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Quinolone (ABT-492)
Annual Development Plan
Exhibit 1.6

Therapeutic Area	Anti-bacterial																
Indications	<ul style="list-style-type: none">- Community acquired respiratory, nosocomial pneumonia, complicated and uncomplicated urinary tract and skin/soft tissue infections.- ABT-492 is a potent broad-spectrum quinolone with activity against Gram+, Gram-, and atypical pathogens, including most penicillin, macrolide, and quinolone resistant strains of S. pneumoniae.- Commercial objective is "Trovan-like" activity with "Levofloxacin-like" safety.- Preliminary in-vitro safety assays suggest good safety profile.- Product will be available in tablet and injectable formulations.- Targeting QD dosing for both formulations (not confirmed).- Targeting 6-7 day dosing for most indications (not confirmed).- COGS at \$1,500-3,200/kg at launch pending chemistry optimization.																
Description																	
Current Time Line	<table><tr><th>Milestones</th><th>Date</th><th>Spending</th><th>\$S</th></tr><tr><td>Phase I</td><td>4Q2000</td><td rowspan="5">Project-to-Date Spending (thru '00) 2001 Current Projection (Plan) * See page 2 for detail.</td><td rowspan="5">11.3 25.0*</td></tr><tr><td>Phase II</td><td>3Q2001</td></tr><tr><td>Phase III</td><td>3Q2002</td></tr><tr><td>NDA Filing</td><td>4Q2004</td></tr><tr><td>Launch</td><td>4Q2005</td></tr></table>	Milestones	Date	Spending	\$S	Phase I	4Q2000	Project-to-Date Spending (thru '00) 2001 Current Projection (Plan) * See page 2 for detail.	11.3 25.0*	Phase II	3Q2001	Phase III	3Q2002	NDA Filing	4Q2004	Launch	4Q2005
Milestones	Date	Spending	\$S														
Phase I	4Q2000	Project-to-Date Spending (thru '00) 2001 Current Projection (Plan) * See page 2 for detail.	11.3 25.0*														
Phase II	3Q2001																
Phase III	3Q2002																
NDA Filing	4Q2004																
Launch	4Q2005																
Projected Spending by Year	<table><tr><th>2000</th><th>2001</th><th>2002</th><th>2003</th><th>2004</th><th>2005</th><th>Total</th></tr><tr><td>6.8</td><td>25.0</td><td>76.0</td><td>100.0</td><td>92.0</td><td>11.0</td><td>269.8</td></tr></table>	2000	2001	2002	2003	2004	2005	Total	6.8	25.0	76.0	100.0	92.0	11.0	269.8		
2000	2001	2002	2003	2004	2005	Total											
6.8	25.0	76.0	100.0	92.0	11.0	269.8											

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Quinolone (ABT-492)
2001 Plan Development Cost Summary

2001 Plan Development Cost Summary

Program Status	2000												2001 Plan Cost								
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4									
Phase I																					
Phase II																					
Phase III																					
<div> <div>2000</div> <div>2001</div> <div>2002</div> <div>2003</div> <div>2004</div> <div>2005</div> </div> <div> <div>Q1</div> <div>Q2</div> <div>Q3</div> <div>Q4</div> <div>Q1</div> <div>Q2</div> <div>Q3</div> <div>Q4</div> <div>Q1</div> <div>Q2</div> <div>Q3</div> <div>Q4</div> <div>Q1</div> <div>Q2</div> <div>Q3</div> <div>Q4</div> </div> <div> <div>Launch</div> <div>NDA</div> </div>																					
Major Development Activities and Costs																					
Clinical Program																					
Phase I																					
Single Rising Dose / Food Effects in Healthy Volunteers	Total Patients				Enrolled 8/31/2000				Start				2000 AGU Cost								
Multiple Rising Dose in Healthy Volunteers	118				0				Nov-00				\$500								
External PK Studies	80				0				Nov-00				\$500								
Microbiology Studies	N/A				0				Apr-01				\$0								
Phase IIA - AECB	N/A				N/A				Jan-01				\$0								
Phase IIB - CAP	250				0				Aug-01				\$0								
Venture Management	250				0				Nov-01				\$0								
European Venture Research													\$201								
Phase I Center													\$28								
Data Management/Statistics													\$70								
													\$53								
													\$1,352								
													\$8,996								
Chemistry, Manufacturing, and Controls (CMC)																					
Bulk Drug / Process Formulation & Analytical													2000 AGU								
													\$598								
													\$593								
													\$1,191								
													\$8,833								
Drug Safety Support													2000 AGU								
Ongoing Drug Safety support including:													2001 Plan								
Toxicity Studies													\$2,331								
													\$2,331								
													\$1,841								
Other Support Costs													2000 AGU								
Discovery													\$2,206								
Reg. / Res. Quality Assurance / Investigational Drug QA													\$3,224								
Medical Affairs													\$534								
Other													\$35								
Milestone Payments (Initiation of Phase IIA)													\$47								
													\$0								
													\$0								
													\$2,318								
													\$3,000								
													\$8,840								
Total Program													\$8,800								
													\$25,000								

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TSP (ABT-510)
Annual Development Plan
Exhibit 1.6

Therapeutic Area		Oncology					
Indications		Solid tumors such as lung, breast, ovary, bladder and pancreas.					
Description	- Thrombospondin peptide						
	- Novel anti-angiogenesis agent						
Current Time Line	- Parenteral dosing						
	- ABT-510 is seeking an indication for the treatment of solid tumors						
	- Mechanism may prevent the growth of tumors and prevent the spread of metastases by preventing or inhibiting the growth of nutrient supplying blood vessels						
Current Time Line	Milestones	Date	Spending				
	DOC	4Q1998	\$				
	Phase I	2Q2000	Project-to-Date Spending (thru '00)				
	Phase II	4Q2001					
	Phase III	1Q2003	2001 Current Projection (Plan)				
	NDA Filing	1Q2005					
	Launch	1Q2006					
			* See page 2 for detail.				
Projected Spending by Year	2000	2001	2002	2003	2004	2005	Total
	6.6	9.0	37.0	29.0	23.0	15.0	119.6

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TSP (ABT-510)
2001 Plan Development Cost Summary

Program Status	1998				1999				2000				2001				2002				2003				2004				2005			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4				
Phase I																																
Phase II																																
Phase III																																
DDC																																
														</																		

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**MMPi (ABT-518)
Annual Development Plan
Exhibit 1.6**

Therapeutic Area		Oncology						
Indications		Solid tumors such as lung, ovarian, pancreas, breast, colorectal and bladder.						
Description	<ul style="list-style-type: none">• Novel metalloproteinase inhibitor.• Cytostatic mechanism.• Oral dosing.• May prevent the growth of metastatic lesions and/or inhibit primary tumor growth.• Superior efficacy or side-effect profile to competitive agents.							
Current Time Line	Milestones		Date		Spending			
	DOC Phase I Phase II Phase III NDA Filing Launch		1Q2000 1Q2001 3Q2002 4Q2003 4Q2005 2Q2006		Project-to-Date Spending (thru '00) 2001 Current Projection (Plan) • See page 2 for detail.			
Projected Spending by Year	2000		2001	2002	2003	2004	2005	Total
	5.0		7.0	31.0	35.0	26.0	20.0	124.0

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2001 Plan Development Cost Summary

Program Status	1999				2000				2001				2002				2003				2004				2005				2006			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4				
Phase II																																
Phase III																																
NDA																																

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Anti-Mitotic (ABT-751)
Annual Development Plan
Exhibit 1.6

Therapeutic Area		Oncology					
Indications		Solid tumors such as breast, lung, colorectal, and ovarian					
Description		<ul style="list-style-type: none">- Novel oral cytotoxic agent that inhibits tumor growth by inhibiting the polymerization of tubulin, similar to the MOA of taxanes- May be effective in patients resistant to other cytotoxic agents					
Current Time Line	Milestones	Date	Spending				
	In-License Phase I Phase II Phase III NDA Filing Launch	2Q2000 1Q/2001 4Q/2001 4Q/2002 1Q/2005 1Q/2005	Project-to-Date-Spending (thru '00) 2001 Current Projection (PLAN) <div>\$6.0 10.0*</div> * See page 2 for detail.				
Projected Spending by Year	2000	2001	2002	2003	2004	2005	Total
	6.0	10.0	27.0	35.0	25.0	12.0	115.0

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**Anti-Mitotic (ABT-751)
2001 Plan Development Cost Summary**

[illegible]

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FTI (ABT-xxx)
Annual Development Plan
Exhibit 1.6

Therapeutic Area		Oncology	
Indications		Solid tumors such as lung, breast, ovary, bladder and pancreas.	
Description		<ul style="list-style-type: none"> - Farnesyltransferase inhibitor. - Mechanism of action is unknown, but thought to inhibit farnesylated proteins which are integral for malignant tumor growth. 	
Current Time Line	Milestones	Date	Spending
	DDC Phase I Phase II Phase III NDA Filing Launch	1Q/2001 4Q/2001 2Q/2003 3Q/2004 4Q/2006 4Q/2007	<div>Project-to-Date Spending (thru '00)</div> <div>2001 Current Projection (Plan)</div> <div>* See page 2 for detail.</div> <div> <div>\$</div> <div>35.0</div> <div>6.0*</div> </div>
Projected Spending by Year		<div>2000</div> <div>N/A</div>	<div>2001</div> <div>6.0</div> <div>2002</div> <div>15.0</div> <div>2003</div> <div>30.0</div> <div>2004</div> <div>30.0</div> <div>2005</div> <div>18.0</div> <div>Total</div> <div>99.0</div>

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ONCOLOGY - ITI ABT-xxx
2001 Plan Development Cost Summary

Program Status	2000				2001				2002				2003				2004				2005				2006				2007			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4				
Phase I																																
Phase II																																
Phase III																																

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Dopamine Receptor Agonist (ABT-xxx)
Annual Development Plan
Exhibit 1.6

Therapeutic Area	Other																		
Indications	Male Erectile Dysfunction (MED)																		
Description	<ul style="list-style-type: none">• D4 Dopamine Receptor Agonist.• Targets D4 receptors in the brain which offers the potential for efficacy in patients with MED that do not respond to Viagra.• Additionally this approach offers opportunity for compounds with improved tolerability relative to other Dopamine agents that are clinically used for MED.																		
Current Time Line	<table><tr><th>Milestones</th><th>Date</th><th>Spending</th></tr><tr><td>DDC</td><td>4Q/2001</td><td>35.0</td></tr><tr><td>Phase I</td><td>2Q/2002</td><td rowspan="4">35.0 6.0*</td></tr><tr><td>Phase II</td><td>4Q/2003</td></tr><tr><td>Phase III</td><td>1Q/2005</td></tr><tr><td>NDA Filing</td><td>1Q/2007</td></tr><tr><td>Launch</td><td>4Q/2007</td><td></td></tr></table> <p>* See page 2 for detail.</p>	Milestones	Date	Spending	DDC	4Q/2001	35.0	Phase I	2Q/2002	35.0 6.0*	Phase II	4Q/2003	Phase III	1Q/2005	NDA Filing	1Q/2007	Launch	4Q/2007	
Milestones	Date	Spending																	
DDC	4Q/2001	35.0																	
Phase I	2Q/2002	35.0 6.0*																	
Phase II	4Q/2003																		
Phase III	1Q/2005																		
NDA Filing	1Q/2007																		
Launch	4Q/2007																		
Projected Spending by Year	<table><tr><th>2002</th><th>2001</th><th>2002</th><th>2003</th><th>2004</th><th>2005</th><th>Total</th></tr><tr><td>N/A</td><td>6.0</td><td>16.0</td><td>30.0</td><td>30.0</td><td>18.0</td><td>99.0</td></tr></table>	2002	2001	2002	2003	2004	2005	Total	N/A	6.0	16.0	30.0	30.0	18.0	99.0				
2002	2001	2002	2003	2004	2005	Total													
N/A	6.0	16.0	30.0	30.0	18.0	99.0													

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**Dopamine Receptor Agonist ABT-xxx
2001 Plan Development Cost Summary**

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Pharmaceutical Products Division
Sample Direct/Indirect Project Funding Distribution
2001 Plan (\$000)

	ABT - 773 (Late Stage - Phase III)			MMPT (Early Stage)		
	Direct	Indirect	Total	Direct	Indirect	Total
PPD Investigational Drug	0.3	0.0	0.4	-	-	-
Venture Management	4.8	1.6	6.5	0.8	0.2	0.9
Discovery	2.2	0.2	2.4	1.1	0.3	1.3
Drug Safety	1.6	0.2	1.7	1.8	0.3	2.1
PARD	4.8	0.4	5.3	0.8	0.2	1.0
Phase I Center	2.0	0.1	2.1	0.1	0.0	0.1
Development Operations	4.2	0.5	4.6	0.1	0.0	0.1
Regulatory Affairs	0.2	0.0	0.3	0.0	0.0	0.0
Medical Affairs	0.8	0.1	0.9	0.0	0.0	0.0
Administration	1.6	-	1.6	0.1	-	0.1
AI Manpower	0.7	-	0.7	-	-	-
Bulk Drug / Process	15.0	-	15.0	-	-	-
Clinical Grants	43.1	-	43.1	1.3	-	1.3
Total	81.4	3.2	84.6	6.2	0.9	7.1
% Split	96.2%	3.8%	100.0%	86.6%	13.4%	100.0%

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Pharmaceutical Products Division
Sample Direct/Indirect Rate & Headcount Distribution
2001 Plan

<u>Rate:</u>	<u>Data Management</u>	<u>Toxicology/Pathology</u>
Direct		
Payroll (Both PMP and Supv/Mgr)	6,577	5,277
Office Supplies	53	51
T & E	26	84
Sem/Edu	21	73
Supplies	41	440
Consultant	291	67
Printing	73	4
Clinical Tracking Costs	4,075	—
Depreciation	1,031	258
UNIX Based Support	3,453	921
Utilities	62	—
Floorspace	579	1,479
Housekeeping	23	—
Other	112	389
Sub-Total Direct	16,416	9,042
Indirect		
Patents & Trademarks	285	388
Corporate Indirect	697	949
PPD Indirect (Mgmt.)	337	458
Department Overhead	396	584
Other	46	62
Sub-Total Indirect	1,761	2,441
Total	18,177	11,483
% Direct	90%	79%
% Indirect	10%	21%
<u>Headcount:</u>		
Direct Headcount	123	53
Indirect Headcount	17	7
Total Headcount	140	60
Rate	92.06	135.42
Hours	1,600	1,600
Annual Rate	147,296	216,672

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EXHIBIT 1.17

EISAI TERRITORY

1. Bhutan
2. Brunei
3. Cambodia
4. People's Republic of China
5. Republic of China (Taiwan)
6. India
7. Indonesia
8. Japan
9. Democratic People's Republic of Korea (North Korea)
10. Republic of Korea
11. Laos
12. Macao
13. Malaysia
14. Mongolia
15. Myanmar
16. Nepal
17. Pakistan
18. Papua New Guinea
19. Philippines
20. Singapore
21. Sri Lanka
22. Thailand
23. Vietnam
24. Italy, co-exclusive rights with Abbott, unless Abbott exercises its rights under the terms of the Eisai Agreement to take an exclusive right to Italy.

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EXHIBIT 1.40

PROGRAM COMPOUNDS

<u>In-License Agreement</u>	<u>Program Compound</u>	<u>Development Phase</u>
Taisho	ABT-627 (Endothelin antagonist)	phase III
	ABT-773 (Ketolide antibiotic)	phase III
	ABT-594 (Cholinergic channel modulator)	late phase II
Wakunaga	ABT-492 (Quinolone antibiotic)	phase I
Eisai	ABT-751 (Antimitotic)	phase I
	ABT-510 (Thrombospondin peptide)	phase I
<u>Preclinical Programs:</u>		
FTI Program		late preclinical
ED Program		late preclinical
MMPI Program	ABT-518 (Matrix metalloproteinase inhibitor)	phase I

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EXHIBIT 1.43

EXAMPLE OF PROGRAM RELATED COSTS FOR ONE PROGRAM COMPOUND

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2001 KEY RATES									
	2000			2001			% Change		
	Rate	Hours	Annual Rate	Rate	Hours	Annual Rate	Hourly Rate	Total Hours	Annual Rate
DRUG SAFETY									
Toxicology/Pathology - PMP/TMP	121.52	1,680	204,154	135.42	1,600	216,672	11.4%	4.8%	6.1%
Metabolism/Microscopy - PMP/TMP	144.75	1,600	231,600	141.64	1,650	233,706	-2.1%	3.1%	0.9%
Comparative Medicine - PMP/TMP	115.80	1,768	204,381	116.88	1,850	216,228	1.1%	4.6%	5.8%
Strategic & Exploratory - PMP/TMP	121.52	1,680	204,154	173.56	1,600	277,696	42.8%	-4.8%	36.0%
PHASE I CENTER									
Pharmacokinetics 4PK - PMP/TMP	144.75	1,600	231,600	135.00	1,600	216,000	-6.7%	...	-6.7%
Clin. Res. MDs 42P - PMP	...	...	...	180.35	1,500	270,525	...	...	...
Clin Res. Spec. 420-PMP/TMP	113.59	1,700	193,103	123.75	1,700	210,375	8.9%	...	8.9%
PARD									
Prod Dev - PMP, TMP	108.54	1,800	195,372	116.71	1,800	210,078	7.5%	...	7.5%
IDS - PMP, TMP	160.80	1,600	257,280	162.11	1,600	259,376	0.8%	...	0.8%
DEV OPERATIONS									
Data Mgmt D433 - TMP/PMP	90.04	1,600	144,064	92.06	1,600	147,296	2.2%	...	2.2%
Stats - PMP/TMP	97.75	1,800	175,950	99.10	1,800	178,380	1.4%	...	1.4%
RA/QA									
RA/QA - PMP & TMP	125.50	1,600	200,800	134.49	1,600	215,184	7.2%	...	7.2%
DISCOVERY									
	137.65	1,800	247,770	142.91	1,800	257,238	3.8%	...	3.8%

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2001 KEY RATES 201 123

03/13/01 02:09:34 PM

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EXHIBIT 9.2

PAYMENT INSTRUCTIONS

Fleet Boston
ABA No. 011000390
Boston, Massachusetts 02110
Account of: John Hancock Life Insurance Co. Private Placement Collection Acct.
Account Number: 541-55417
On Order of: Abbott Laboratories -- Research Funding Agreement dated as of March 13, 2001

E-3233160

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Exhibit 12.2(d)

Further Information Regarding Program Compounds

COMPOUND	CHEMICAL NAME	CURRENT STAGE OF DEVELOPMENT
ABT-627 Endothelin antagonist	(2R,3R,4S)-4-(1,3-benzodioxol-5-yl)-1-[2-(dibutylamino)-2-oxoethyl]-2-(4-methoxyphenyl)-3-pyrrolidinecarboxylic acid	Phase III
ABT-773 Ketolide antibiotic	(3aS,4R,7R,9R,10R,11S,13R,15R,15aR)-4-ethyl-3a,7,9,11,13,15-hexamethyl-2,6,8,14-tetraoxo-11-[[[(2E)-3-(3-quinolinyl)-2-propenyl]oxy]tetradecahydro-2H-oxacyclotetradecino[4,3-d][1,3]oxazol-10-yl 3,4,6-trideoxy-3-(dimethylamino)-D-xyllo-hexopyranoside	Phase III
ABT-594 Cholinergic channel modulator	(2R)-azetidylmethyl 6-chloro-3-pyridinyl ether hydrochloride	Phase II
ABT-492 Quinoline Antibiotic	potassium 1-(6-amino-3,5-difluoro-2-pyridinyl)-8-chloro-6-fluoro-7-(3-hydroxy-1-azetidyl)-4-oxo-1,4-dihydro-3-quinolinecarboxylate	Phase I
ABT-518 Matrix metalloproteinase inhibitor	(1S)-1-[(4S)-2,2-dimethyl-1,3-dioxolan-4-yl]-2-[(4-{4-(trifluoromethoxy)phenoxy}phenyl)sulfonyl]ethyl(hydroxy)formamide	Phase I
ABT-751 Antimitotic	N-[2-(4-hydroxyanilino)-3-pyridinyl]-4-methoxybenzenesulfonamide	Phase I
Farnesyltransferase inhibitor	N.A.	Pre-Clinical Program
Dopamine Receptor Agonist for Erectile Dysfunction	N.A.	Pre-Clinical Program

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Blewitt 11/17/2006 Deposition Exhibit 20

D's Exhibit 820 - Part 3

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EXHIBIT 12.2(e)

Certain Patent Information

ABT-627

COUNTRY	FILING DATE	PATENT NUMBER	STATUS	EXP. DATE
Australia	08/04/1995	711832	Issued	08/04/2015
Brazil	02/12/1997		Pending	
Canada	08/04/1995		Pending	
EP*	08/04/1995		Pending	
Hong Kong	07/15/1998		Pending	
Israel	08/10/1995		Pending	
Japan	08/04/1995		Pending	
Korea	08/04/1995		Pending	
Mexico	08/04/1995		Pending	
Philippines	08/17/1995		Pending	
USA	05/30/1995	5,767,144	Issued	06/16/2015

*Europe: Austria, Belgium, Great Britain, Denmark, France, Germany, Greece, Ireland, Italy, Luxembourg, Netherlands, Portugal, Spain, Sweden, Switzerland

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Exhibit 12.2(e) (Cont'd)

ABT-773
(Subject to Taisho Agreement)

COUNTRY	FILING DATE	PATENT NUMBER	STATUS	EXP. DATE
Argentina	09/03/1997		Pending	
Australia	09/02/1997		Pending	
Brazil	05/13/1997		Pending	
Brazil	09/02/1997		Pending	
Bulgaria	09/02/1997		Pending	
Belarus	09/02/1997		Pending	
China	09/02/1997		Pending	
Chile	09/04/1997		Pending	
Canada	09/02/1997		Pending	
Columbia	09/02/1997		Pending	
Czech Republic	09/02/1997		Pending	
EP*	09/02/1997		Pending	
Guatemala	08/29/1997		Pending	
Hong Kong	09/02/1997		Pending	
Croatia	09/03/1997		Pending	
Hungary	09/02/1997		Pending	
Indonesia	09/04/1997		Pending	
India	Pending-Black Box		Pending	
Israel	09/02/1997		Pending	
Japan	09/02/1997		Pending	
Korea	09/02/1997		Pending	
Mexico	09/02/1997		Pending	
Malaysia	08/26/1997		Pending	
Norway	09/02/1997		Pending	

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Exhibit 12.2(e) (cont'd)

ABT-773 (cont'd)
(Subject to Taisho Agreement)

COUNTRY	FILING DATE	PATENT NUMBER	STATUS	EXP. DATE
New Zealand	09/02/1997		Pending	
Philippines	09/02/1997		Pending	
Pakistan	10/13/1997	136010	Issued	10/13/2013
Poland	09/02/1997		Pending	
Romania	09/02/1997		Pending	
Russia	09/02/1997		Pending	
South Africa	08/20/1997	97/7474	Issued	08/20/2017
Singapore	09/02/1997		Pending	
Slovak Republic	09/02/1997		Pending	
Slovenia	09/02/1997	20023	Issued	09/02/2017
Saudi Arabia	02/10/1998		Pending	
Thailand	09/03/1997		Pending	
Turkey	09/02/1997	TR 01127 B	Issued	09/02/2017
Taiwan	09/05/1997		Pending	
UA	09/02/1997		Pending	
USA	07/03/1997	5,866,549	Issued	09/04/2016
Yugoslavia	09/02/1997		Pending	

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EXHIBIT 12.2(e) (Cont'd)

ABT-594

COUNTRY	FILING DATE	PATENT NUMBER	STATUS	EXP. DATE
Australia	10/08/1993	687017	Issued	10/18/2013
Brazil	04/30/1997		Pending	
Canada	10/08/1993		Pending	
EP*	10/08/1993		Pending	
Hong Kong	12/10/1998		Pending	
Israel	10/04/1993	107184	Issued	10/04/2013
Japan	10/08/1993	3098035	Issued	10/08/2013
Korea	10/08/1993		Pending	
Mexico	10/08/1993		Pending	
Philippines	10/07/1993		Pending	
USA	06/07/1995	5,948,793	Issued	09/07/2016

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EXHIBIT 12.2(e) (Cont'd)

ABT-492

(Subject to Wakunaga Agreement)

COUNTRY	FILING DATE	PATENT NUMBER	STATUS	EXP. DATE
Australia	09/24/1999		Pending	
Brazil	11/29/1999		Pending	
Canada	12/06/1999		Pending	
China	10/22/1999	1258674A	Issued	
Hong Kong				
EP*	12/08/1999	0992501	Issued	
Hungary	11/23/1999	9904389	Issued	
Republic of Korea	08/29/2000			
Mexico	10/14/1999		Pending	
Russian Federation	05/26/2000		Pending	
USA	06/10/1999		Pending	
Japan	10/06/1999	2000-136191	Issued	

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EXHIBIT 12.2(e) (Cont'd)

ABT-510

COUNTRY	FILING DATE	PATENT NUMBER	STATUS	EXP. DATE
Argentina	05/21/1999		Pending	
Australia	05/21/1999		Filing in Process	
Brazil	05/21/1999		Filing in Process	
Bulgaria	05/21/1999		Filing in Process	
China	05/21/1999		Filing in Process	
Chile	05/20/1999		Pending	
Canada	05/21/1999		Filing in Process	
Columbia	05/21/1999		Pending	
Czech Republic	05/21/1999		Filing in Process	
EP*	05/21/1999		Filing in Process	
Hong Kong	05/21/1999		Filing in Process	
Hungary	05/21/1999		Pending	
India	05/21/1999		Filing in Process	
Israel	05/21/1999		Filing in Process	
Japan	05/21/1999		Filing in Process	
Korea	05/21/1999		Filing in Process	
Mexico	05/21/1999		Filing in Process	
Norway	05/21/1999		Filing in Process	
New Zealand	05/21/1999		Filing in Process	
Philippines	05/21/1999		Pending	
Poland	05/21/1999		Filing in Process	
South Africa	05/21/1999		Filing in Process	
Slovak Republic	05/21/1999		Filing in Process	
Saudi Arabia	05/21/1999		Pending	
Turkey	05/21/1999		Filing in Process	
Taiwan	05/21/1999		Pending	
USA	05/21/1999		Pending	

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EXHIBIT 12.2(e) (Cont'd)

ABT-518

COUNTRY	FILING DATE	PATENT NUMBER	STATUS	EXP. DATE
Argentina	07/30/1998		Pending	
Australia	07/27/1998		Pending	
Brazil	07/27/1998		Pending	
Bulgaria	07/27/1998		Pending	
China	07/27/1998		Pending	
Chile	07/17/1998		Pending	
Canada	07/27/1998		Pending	
Columbia	07/29/1998		Pending	
Czech Republic	07/27/1998		Pending	
EP*	07/27/1998		Pending	
Hungary	07/27/1998		Pending	
Israel	07/27/1998		Pending	
Japan	07/27/1998		Pending	
Korea	07/27/1998		Pending	
Mexico	07/27/1998		Pending	
Norway	07/27/1998		Pending	
New Zealand	07/27/1998		Pending	
Philippines	07/27/1998		Pending	
Poland	07/27/1998		Pending	
South Africa	07/30/1998	98/6828	Issued	07/30/2018
Slovak Republic	07/27/1998		Pending	
Saudi Arabia	12/15/1998		Pending	
Turkey	07/27/1998		Pending	
Taiwan	07/31/1998		Pending	
USA	08/05/1998		Pending	

*Europe: Austria, Belgium, Great Britain, Denmark, France, Germany, Greece, Ireland, Italy, Luxembourg, Netherlands, Portugal, Spain, Sweden, Switzerland

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EXHIBIT 12.2(e) (Cont'd)

ABT-751
(Subject to Eisai Agreement)

COUNTRY	FILING DATE	PATENT NUMBER	STATUS	EXP. DATE
USA	08/08/1991	5,250,549	Issued	08/08/2011
		5,292,758		08/08/2011
Germany	08/07/1991	EP 472,053	Issued	08/07/2011
United Kingdom	08/07/1991	EP 472,053	Issued	08/07/2011
France	08/07/1991	EP 472,053	Issued	08/07/2011

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EXHIBIT 12.2(f)

COMMUNICATIONS

With respect to ABT-594, Abbott has received the following communications:

- Correspondence from Sibia Neurosciences, 505 Coast Blvd. South, Suite 300, La Jolla, CA 92037 (Sibia was acquired by Merck & Co., Inc. in August, 1999) including, most recently, a letter dated March 13, 1998.
- Correspondence from ICT Pharmaceuticals c/o Stadheim and Gear, Ltd., 400 North Michigan Ave., Chicago, IL 60611 including, most recently, a letter dated September 14, 2000.

The Sibia and ICT correspondence each refer to their patents on research tools.

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EXHIBIT 12.2(i)

Compound Reports

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ABT – 773

Descriptive Memorandum

February 2001

Abbott Laboratories

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ABT-773

Opportunity Overview

ABT-773 pertains to a promising new class of antibiotics known as ketolides. ABT-773 is likely to have activity against resistant strains of bacteria and will, therefore, compete effectively against currently marketed antibiotics. The compound is currently in Phase II/III trials. Phase III clinical trials began in Q4, 2000. ABT-773 has an expected U.S. launch date in Q1, 2004. Ex-U.S. launches are projected in 2004 for Europe and Japan.

Product features such as high efficacy, activity against resistant strains of bacteria and convenience should enable it to compete against both Zithromax and newer agents such as the quinolones. Dosing is expected to be once-a-day. A 5-day convenience pak at a competitive price will help maximize sales.

The US Market

The overall antibiotic market in the U.S. reached \$8.9 billion in sales in 1999. The tab/cap segment is the largest; sales in 1999 were \$5.7 billion. The I.V. and oral suspension segments are comparatively smaller; total sales topped \$2.1 and \$1.1 billion, respectively.

Tab/cap and oral suspension prescription volume had been declining 1-2% per year in the period of 1995-1998, due to more appropriate prescribing in the face of increasing resistance. However, total tab/cap prescription volume recovered in 1999 and grew 6.3%. Even in the face of negative pressure on antibiotic use, dollar sales in the U.S. have continued to increase, particularly in the tab/cap market. This is due to the trend of replacing relatively low-cost generic agents with higher priced premium antibiotics. The market is willing to bear higher costs for agents that satisfy unmet needs. The I.V. market has grown slightly in terms of sales, also being driven largely by the replacement of generic agents with more costly branded agents.

Macrolides, largely fueled by the gains of Zithromax, have seen significant growth in terms of both prescriptions and sales. Zithromax prescriptions far outnumber those of other competitors, while its sales have nearly surpassed those of the sales leader, Cipro. Historically, quinolones saw relatively limited use for community respiratory tract infections (RTIs) because of poor Gram-positive coverage and sub-optimal adverse event profiles. Newer quinolones such as Levaquin have been successful in achieving more widespread use by virtue of its improved activity and adverse event profile. Levaquin currently accounts for approximately 30% of the quinolone market share. It is anticipated that recent quinolone introductions (Avelox, Tequin) will build upon the RTI momentum established by Levaquin. The growth of the macrolide and quinolone classes has come largely at the expense of cephalosporins and generic agents such as erythromycin and penicillin.

The following table shows 1999 tab/cap sales and prescriptions by class/product:

	Sales			TRXs		
	Sales (\$MM)	Share	CAGR ₉₅₋₉₉	TRXs (MM)	Share	CAGR ₉₅₋₉₉
Penicillins	\$148.3	2.6%	-1.0%	52.5	23.7%	-5.6%
Cephalosporins	\$980.9	17.2%	-5.8%	37.9	17.1%	-3.5%
Cefin	\$383.9	6.7%	1.8%	5.0	2.3%	-1.0%
Cefzil	\$188.7	3.3%	12.5%	2.7	1.2%	11.3%
Other	\$406.3	7.1%	-14.7%	30.1	13.6%	-4.8%
Ext. Spec. Macrolides	\$1,595.6	27.9%	19.9%	36.1	16.3%	20.8%
Blaxin	\$690.5	12.1%	6.1%	11.3	5.1%	1.2%
Zithromax	\$891.1	15.6%	42.1%	24.4	11.0%	41.5%
Other	\$14.0	0.2%	21.0%	0.4	0.2%	53.0%
Quinolones	\$1,622.1	28.4%	17.0%	24.0	10.8%	11.7%
Cipro	\$902.5	15.8%	8.3%	14.1	6.4%	5.1%
Levaquin	\$529.4	9.3%	NA	7.0	3.1%	NA
Other	\$190.2	3.3%	-2.2%	3.0	1.3%	-6.4%
Augmentin	\$778.1	13.6%	17.8%	10.7	4.8%	11.8%
Other Classes	\$590.5	10.3%	-1.1%	60.4	27.3%	-4.1%
TOTAL TAB/CAP	\$5,715.4	100.0%	8.9%	221.5	100.0%	0.1%

U.S. Market Projections

Resistance to antibiotics is likely to increase, creating opportunities for new agents with activity against resistance. Physicians will be urged to choose agents with an appropriate spectrum of activity relative to the infection being treated. Resistance will increasingly become part of the promotional mix for emerging agents. The ability of an agent to treat resistant strains and the real or perceived ability to slow or prevent resistance development (mutation prevention concentration, low mutation frequency, structure-activity relationships, etc) may confer competitive advantage to such agents.

- Quinolones, which historically have seen limited use in community-acquired respiratory infections, will become a significant class in this segment as new agents from this class are launched that specifically target RTIs.
- The market will become more competitive as new agents enter both the community segment (ketolides, quinolones) as well as the nosocomial segment (oxazolidinones, streptogramins, everninomycins, peptides, others).
- Several key branded antibiotics will lose patent exclusivity over the next three to five years.. This may create an opportunity in the pediatric market as the top three pediatric brands (Augmentin, Cefzil, Zithromax) are among those losing patent exclusivity.

Antiviral influenza and cold therapeutics, as well as an increasing number of antibacterial vaccines may have a negative impact on antibiotic prescriptions.

The Ex-U.S. Market

Ex-U.S. sales of antibiotics totaled \$11.7 billion in 1999. Tab/cap represents the largest segment, with sales of \$9.4 billion from 770 million total prescriptions. Total Rx growth has been flat, with a 1996-99 CAGR of 0.5%. The use of antibiotics is predicted to slowly decline due to more judicious use of antibacterials in the face of increasing bacterial resistance.

Ex-U.S., the quinolone class accounted for 8% of total tab/cap market prescriptions (62 million Rxs) and 13% of sales (\$1.2 billion). Ciprofloxacin is the market leader ex-U.S. with approximately 47% of the quinolone market Rxs (29 million Rxs) and 44% (\$530MM) of sales. Levofloxacin launched in many European markets in 1998/1999 and holds approximately 14% Rx share of the European quinolone market and 0.8% of the overall tab/cap market. Although grepafloxacin and trovafloxacin also launched in some European countries in 1999, both products were recently pulled from the market due to liver toxicity and other complications. Moxifloxacin launched in Germany in Q4 1999, but has not yet been approved in other markets. In Japan, levofloxacin launched in 1994 and still commands a 65% Rx share of the quinolone market and 10% of the Japanese tab/cap market overall. Japan accounts for approximately 80% of ex-U.S. levofloxacin sales (\$370MM).

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Scientific Rationale for ABT-773

The likely profile of ABT-773 justifies further development

- ABT-773 pertains to a new class of antibiotics.
- Good activity against resistant Gram + organisms, particularly macrolide-resistant *S. pneumoniae*.
- Convenience, safety, and tolerability profile competitive with Z-pak.
- Oral Suspension and I.V. forms enabling penetration into pediatrics and hospital segments.

Clinical Studies

The safety and efficacy of ABT-773 in AECB were studied in a multi-center Phase II clinical trial conducted between January and April of 1999. Dosing regimens of 100mg TID and 200mg TID were tested. Of the 169 enrolled patients, 159 were clinically evaluable and 96 were both clinically and bacteriologically evaluable. The following chart summarizes the results.

Bacterial Eradication	ABT-773 100mg TID	ABT-773 200mg TID	Overall Eradication
<i>S. pneumoniae</i>	100% (13/13)	90% (9/10)	96% (22/23)
<i>M. catarrhalis</i>	100% (6/6)	100% (7/7)	100% (13/13)
<i>H. influenzae</i>	96% (23/24)	92% (24/26)	92% (47/50)
<i>H. parainfluenzae</i>	100% (6/6)	88% (7/8)	93% (13/14)

Clinical Response	ABT-773 100mg TID	ABT-773 200mg TID
Cure	96% (77/80)	92% (73/79)
Failure	4% (3/80)	8% (6/79)

Clinical and Bacterial Response	ABT-773 100mg TID	ABT-773 200mg TID
Cure	96% (46/48)	94% (45/48)
Failure	4% (2/48)	6% (3/48)

Adverse Events	ABT-773 100mg TID	ABT-773 200mg TID	Overall
Taste Perversion	5% (4/84)	8% (7/85)	6.5% (11/169)
Diarrhea	11% (9/84)	6% (5/85)	8% (14/169)
Nausea	2% (2/84)	2% (2/85)	2% (4/169)
Abdominal Pain	1% (1/84)	2% (2/85)	2% (3/169)
Headache	2% (2/84)	1% (1/85)	2% (3/169)
Rash	2% (2/84)	1% (1/85)	2% (3/169)
Dyspnea	2% (2/84)		1% (2/169)
Elev. Liver Funct. Test	1% (1/84)	1% (1/85)	1% (2/169)
Fever		2% (2/85)	1% (2/169)

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The safety and efficacy of ABT-773 in AECB were studied in a multi-center Phase IIb clinical trial from October 1999 to March 2000. Doses of 150mg QD, 300mg QD, and 600mg QD were tested. Of the enrolled subjects, 342 were clinically evaluable, and 169 were both clinically and bacteriologically evaluable. The following chart summarizes the results.

Bacterial Eradication	ABT-773 150mg QD	ABT-773 300mg QD	ABT-773 600mg QD	Overall Eradication
<i>S.pneumoniae</i>	83% (10/12)	90% (9/10)	100% (13/13)	91% (32/35)
<i>M.cattarrhalis</i>	80% (8/10)	92% (12/13)	91% (10/11)	88% (30/34)
<i>H. influenzae</i>	94% (17/16)	89% (17/19)	83% (19/23)	88% (53/60)
Clinical Response				
Cure	87% (98/113)	90% (105/117)	90% (101/112)	
Failure	13% (15/113)	10% (12/117)	10% (11/112)	
Clinical & Bacteriological Response				
Cure	84% (42/50)	88% (49/56)	94% (59/63)	
Failure	16% (8/50)	12% (7/56)	6% (4/63)	
Adverse Events				
Taste Perversion	5% (4/84)	19% (25/129)	29% (37/129)	17% (66/384)
Diarrhea	13% (16/126)	12% (15/129)	21% (27/129)	15% (58/384)
Nausea	7% (9/126)	13% (17/129)	30% (38/129)	17% (64/384)
Vomiting	2% (3/126)	3% (4/129)	11% (14/129)	5% (21/384)
Nausea & Vomiting	0 (0/126)	<1% (1/129)	4% (5/129)	2% (6/384)
Abdominal Pain	4% (5/126)	4% (5/129)	4% (5/129)	4% (15/384)

The safety and efficacy of ABT-773 in Acute Bacterial Sinusitis (ABS) were studied in a multi-center Phase IIb clinical trial conducted from October 1999 to March 2000. Dosing regimens of 150mg QD, 300mg QD, and 600mg QD were tested. Of the 292 enrolled subjects, 246 were clinically evaluable. The following chart summarizes the results.

Bacterial Eradication	ABT-773 150mg QD	AB T-773 300mg QD	ABT-773 600mg QD	Overall Eradication
<i>S.pneumonia</i>	3/3	8/8	9/12	20/23
<i>M. catarrhalis</i>	8/9	3/4	4/4	15/17
<i>H. influenzae</i>	3/5	7/7	5/7	15/19
<i>S.aureus</i>	1/1	1/1	3/4	5/6
Clinical Response				
Cure	89% (70/79)	83% (70/84)	71% (59/83)	
Failure	11% (9/79)	17% (14/84)	29% (24/83)	
Adverse Events				
Taste Perversion	1% (6/97)	14% (14/98)	27% (26/97)	14% (41/292)
Diarrhea	6% (6/97)	6% (6/98)	17% (16/97)	10% (28/292)
Nausea	3% (3/97)	12% (12/98)	26% (25/97)	14% (40/292)
Vomiting	1% (1/97)	6% (6/98)	17% (16/97)	8% (23/292)

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The safety and efficacy of ABT-773 in community-acquired pneumonia (CAP) were studied in a multi-center Phase IIb clinical trial from October 1999 to March 2000. Dosing regimens of 300mg QD and 600mg QD were tested. Of the 187 enrolled subjects, 1248 were clinically evaluable, and 15 were both clinically and bacteriologically evaluable. The following chart summarizes the results.

Bacterial Eradication	ABT-773 300mg QD		ABT-773 600mg QD		Overall Eradication	
<i>S. pneumoniae</i>	87%	(13/15)	100%	(7/7)	91%	(20/22)
<i>M. catarrhalis</i>	75%	(6/8)	50%	(2/4)	67%	(8/12)
<i>H. influenzae</i>	100%	(9/9)	72%	(13/18)	81%	(22/27)
<i>M. pneumoniae</i>	93%	(13/14)	93%	(14/15)	93%	(27/29)
<i>C. pneumoniae</i>	95%	(19/20)	79%	(19/24)	86%	(38/144)
<i>L. pneumoniae</i>	100%	(3/3)	100%	(2/2)	100%	(5/5)
Clinical Response						
Cure	92%	(72/78)	80%	(56/70)		
Failure	8%	(6/78)	20%	(14/70)		
Clinical & Bacterial Response						
Cure	92%	(54/59)	82%	(47/57)		
Failure	8%	(5/59)	18%	(10/57)		
Adverse Events						
Taste Perversion	17%	(16/95)	26%	(24/92)	21%	(40/187)
Diarrhea	14%	(13/95)	19%	(17/92)	16%	(30/187)
Nausea	12%	(11/95)	22%	(20/92)	17%	(31/187)
V omitting	10%	(9/95)	15%	(14/92)	12%	(23/187)

• Appendix 1

Key Emerging Competitors

Generic	Brand	Company	Class	Status
moxifloxacin	Avelox	Bayer	Quinolone	Approved by FDA 12/13/00
gatifloxacin	Tequin	BMS	Quinolone	Approved by FDA 12/21/00
gemifloxacin	Factive	SKB	Quinolone	Filed NDA 12/15
T-3811	TBD	BMS/Toyama	Quinolone	Phase I
telithromycin	Ketek	Aventis	Ketolide	Filed NDA 3/00
linezolid	Zyvox	Pharmacia	Oxazolidinone	Approved by FDA Q2 '00

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ABT – 627

Descriptive Memorandum

February 2001

Abbott Laboratories

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ABT-627

Opportunity Overview

ABT-627 is an orally bioavailable endothelin antagonist with a high selectivity for the Eta receptor. The endothelins (ET-1, ET-2, ET-3) are a family of 21 amino acid peptides first identified in 1988. Endothelin is a potent, long acting vasoconstrictor produced by vascular endothelial cells. The known biological effect of ET-1 are believed to be mediated principally through the Eta receptor. These include potent and uniquely sustained vasoconstriction of vascular smooth muscle, positive inotropy of myocardium, and the stimulation of cell proliferation or the hypertrophy in vascular smooth muscle cells, cardiac myocytes, and fibroblasts.

In vitro studies in cultured cells have established that ABT-627 selectively binds to the Eta receptor, and that ABT-627 is a potent inhibitor of ET-1 binding to the Eta receptor.

Studies in cultured human prostate cancer cells and other cultured cells have shown that ABT-627 acts as a functional antagonist of ET-1, and these effects have been confirmed in vivo by assessing the effect of ABT-627 on the ET-1 induced pressor response in rats. Further animal studies have suggested that oral ABT-627 may be effective in the treatment of congestive heart failure, pulmonary hypertension, hypertension, arterial restenosis, and myocardial infarction.

In addition to literature and animal models supporting the role of endothelin antagonists in cardiovascular indications, data exists supporting the role of the ET-1 cytokine as a pathogenic mediator in cancer.

The current role of endothelin in the manifestations of metastatic prostate cancer (PCA) and other tumors have yet to be fully defined. However, Abbott scientists and thought leaders have made multiple observations about endothelin biology which suggest that endothelin may play a role in the biology and pathophysiology of metastatic prostate disease and other metastatic disease such as ovarian, cervical and renal tumors.

ABT-627 has successfully completed Phase II trials for PCA, and the results demonstrate efficacy in hormone refractory PCA. The end of Phase II meeting with the FDA was held on October 4th. The data from Phase II was very favorably received and "best package" comments were made. Fast track designation and rolling NDA were granted. The FDA was conceptually in agreement with preliminary design of Phase III clinicals and clinical end points to measure. While not a dictate, a second Phase III trial will likely be conducted to insure the best opportunity for a successful outcome. The Phase III program is scheduled to commence before year-end. It is expected that filing on ABT 627 will occur in US and ex-US 1Q 2004. The compound is also in Phase I trials for other cancer types. Phase II studies in other cancer types will commence in 2Q01. Other indications outside of oncology are also being considered, to optimize the commercial potential of this asset.

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The US Market

Prostate cancer is the most common cancer to strike nonsmoking men. The NCI estimates that there are over 1.7 million men living with prostate cancer in the U.S., and another 179,300 will be diagnosed in 1999. Nearly 80% of these cases are men over 60 years of age. It is estimated that the prevalence of prostate cancer is 380,000 in Western Europe and 45,000 in Japan. While the vast majority of these patients will be identified with potentially curable disease (25% in Stage I and 50% in Stage II) in the U.S., half of these patients will go undiagnosed until late stage disease in W. Europe and Japan. The skewed distribution of diagnosed cases ex-U.S. is largely due to less aggressive prostate cancer screening programs compared to the U.S.

Prostate cancer has seen few additions or innovations in treatment regimens in the past two decades. Treatments remain, in general, radical prostatectomy (RP) for localized disease, radiotherapy for locally advanced disease and hormone therapy for advanced disease. Patients receiving hormone therapy become refractory to this treatment after two to three years, although many will continue on hormone therapy. These hormone refractory prostate cancer (HRPCa) patients usually have a life expectancy of approximately 12 months, and no existing standard of care exists for treating these patients. No therapy has shown a significant impact on survival in these patients, although some chemotherapeutic regimens may offer promise.

There is a general trend toward using hormone therapy in earlier stage patients. In some centers, patients are receiving hormone therapy prior to surgery or radiation, in an attempt to improve outcomes in these definitive treatments. Some thought leaders suggest that this earlier utilization has contributed to the overall mortality improvements in PCA. Studies are ongoing looking at different uses for hormone therapy, including intermittent therapy, in an attempt to improve outcomes and mitigate the morbidity associated with hormonal therapy.

Hormone therapy remains the mainstay of prostate cancer treatment in earlier stages. Chemotherapy, however, has gained additional attention in hormone refractory disease as new combinations and regimens offer the potential for greater therapeutic benefit with fewer side-effects. This trend will take several years before clinical trials are completed and community based oncologists adopt these regimens, so the current cytotoxic market in PCA is small.

The total dollar growth of this market has slowed as the two market leaders, Lupron (leuprolide/TAP) and Zoladex (goserelin/Zeneca), have experienced increased price pressures from managed care and Medicare. About half the states are currently reimbursing these therapies at a least cost option (only paying for the cheapest alternative), putting downward price pressures on Lupron (\$6,500/yr) to match Zoladex's (\$4,500/yr) lower price point. Thus, US Lupron dollar sales declined between 1997 and 1998, despite an increase in patient volume.

Growth has also stagnated due to a lack of innovation in this hormone dominated category. There have been few therapeutic advances in the treatment of PCA in the last 5 years.

The only chemotherapy approved for use in HRPCa patients with pain is Novantrone (miloxantrone/Immunex), but the marginal benefits this compound delivers is deeply undercut by its severe toxicities and a lifetime cap on dose. Novantrone and steroids significantly reduced the metastatic pain in 40% of patients, but it does not appear to provide a survival advantage. Novantrone is dosed by i.v. infusion every 21 days, at a cost of \$560 per treatment, or an annual cost of around \$8,000. Use of this agent is associated with significant side-effects, including myelosuppression, cardiac toxicity (which limits dosing) and nausea. It is this negative side-effect profile that inhibits the use of this agent in more patients. Only about 4% of U.S. HRPCa patients received Novantrone therapy in 1998. Novantrone has not been approved ex-US.

Only about 17% of HRPCa patients received any chemotherapy in 1998. The most common drugs included estramustine, paclitaxel and etoposide. These drugs continue to be some of the most studied compounds in HRPCa ongoing research and represent the greatest short-term promise in the cytotoxic treatment of this advanced disease state.

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US Sales of Products to Treat Prostate Cancer

Product	1997 Dollar Sales (MM)	1998 Dollar Sales (MM)	% chng '97-'98
Lupron (leuprolide/TAP)	\$650	\$667	2.6%
Zoladex (goserelin/Zeneca)	233	296	27.3
Casodex (bicalutamide/Zeneca)	58	68	17.24
Eulixen (flutamide/Schering)	74	67	-9.5
Novantrone (mitoxantrone/Immunex)	33	35	6.1
Nilandrone (nilutamide/Hoechst)	12	24	100
Emcyt (estramustine/Pharmacia/Upjohn)	8	14	75
Taxol (paclitaxel/BMS)	4	8	100
VePesid (etoposide/BMS)	5	4	-20
Others	27	31	14.8
Total	1,104	1,214	10%

Source: Tandem Research and Price Probe

US Market Projections

- Novantrone (mitoxantrone/Immunex) is currently the only product approved for the treatment of hormone refractory PCA with pain. It currently falls short on the market needs in terms of efficacy and side-effect profile.

Attribute	Novantrone Profile
Dosing	I.V. Infusion cycles
Cost	Expensive, ~\$10,000/yr
Efficacy	Provides marginal improvements in quality of life
Reimbursed	Yes
Side-effects	Dose limiting toxicities
Promo Efforts	108 oncology reps
Targets	Oncologists

Several surveys indicate that there are over 100 compounds in preclinical and clinical development for prostate cancer and various solid tumors. The compounds listed in the appendix represent compounds that appear to offer the greatest promise and/or potential for competition for ABT-627. However, since the most likely use of ABT-627 will be in combination with best therapy, it is difficult to define the extent of competitive threat that any of these compounds represent. In general, other cytostatic agents probably offer the greatest threat as a replacement for ABT-627. However, even other cytostatic agents may be combined to maximize the activity of the various mechanisms.

To date, PPD is aware of only one other endothelin receptor antagonist in development for cancer, from Yamanouchi, which began Phase I studies in the Fall of 1999. ABT-627 is still poised to be the first endothelin receptor antagonist to reach the market for oncology.

Scientific Rationale for ABT-627

There are relatively low hurdles for entry for a product to treat hormone refractory prostate cancer, as no truly effective agents presently exists. Quality of life is paramount in this population, followed by improvements in disease progression and survival. Quality of life parameters could include an impact on pain/or delay in pain onset or other performance type measures of daily activities. As all hormone therapy ultimately fails, a product that delays disease progression is needed.

Unmet Need	Pipeline Impact
Improvements in QOL	<ul style="list-style-type: none"> ABT-627's profile goal is to provide improvements to a patient's QOL or blunt a decrease in QOL Cytotoxic agents rarely have significant positive impacts on QOL Other cytostatic agents may offer this benefit
Improvements in survival	<ul style="list-style-type: none"> It is unlikely that improvements in survival will be seen in our current trials Cytotoxic agents may offer a survival advantage, perhaps in combination with ABT-627
Improvements in time to disease progression	<ul style="list-style-type: none"> Cytostatic and cytotoxic agents offer the greatest promise for this benefit

Our objective is to provide physicians and patients with a novel option for the treatment of hormone refractory prostate cancer, distinguish ABT-627 from current cytotoxic therapies and encourage the treatment of advanced prostate cancer patients currently only receiving hormonal therapy.

ABT-627 will be positioned as a physician and patient-friendly choice for advanced prostate cancer patients who have failed hormone therapy. ABT-627's novel mechanism of action provides a delay in disease progression and a positive impact on QOL. The oral, QD dosing enhances compliance and minimizes disruptions to daily living.

The message will focus on 3 key attributes:

- Efficacy (defined as increased time to tumor progression) in a patient group with few options
- Improvements in quality of life
- Convenience

Physicians no longer have to choose between *treating* advanced prostate cancer patients and a patient's quality of life. ABT-627 has a positive impact on disease progression and symptoms associated with quality of life, without the baggage of significant side-effects or the inconvenience of parenteral administration associated with current therapy choices.

This message expresses the key features of the agent in terms of patient benefits, as opposed to emphasizing the scientific/clinical aspects. Since prostate cancer is a terminal disease with a relatively long time for disease progression, the quality of a patient's life becomes even more critical. Especially in cancer treatment, where the therapy can often feel worse than the disease, the benefits that ABT-627 will bring, coupled with its benign side-effect profile, will have a significant impact on prostate cancer patients' lives.

Clinical Studies

Phase II trials have been completed and the data are being analyzed. Preliminary results for the primary endpoint of time-to-disease progression and the secondary endpoint of time-to-PSA progression show that ABT-627 favorably delays both phenomena with a benign adverse event profile. The results are summarized below:

Disease Progression: The delay in median time-to-disease progression for evaluable subjects was improved by 52% and 43% for the 10mg and 2.5mg doses respectively over the placebo time-to-disease progression of 4.3 months.

Time-to-PSA Increase: A 150% and 150% improvement in median time-to-PSA progression for evaluable subjects was observed for the 10mg and 2.5mg doses respectively over the time-to-PSA progression placebo of 2 months.

Significant dose related decreases were observed in markers of metastatic bone disease.

Key Prostate Cancer Competitors

Product	Company	Phase	Projected NDA Filing	Description	Anticipated Impact on ABT-627
AG 3340	Agouron	III	2000	MMPi	In combination with mitoxantrone/prednisone. Unknown impact.
Marimastat	British Biotech	II	2001	MMPi	Side-effect profile significantly worse than ABT-627. Probably minimal impact.
SU 101	Sugen	VII	2002	PDGF TK antagonist	Phase III in combination with mitoxantrone set to start in 1998. Uncertain impact.
AR 623	Aronex	II	2002	All-transretinoic acid	IV liposomal form of ATRA. HRPc trial began November 1998. Probably additive.
MGI 114	MGI Pharma	II	2002	Alkylating agent	Lead compound in acylfulvenes. Fairly toxic. Probably additive.
Liposomal Encapsulated doxorubicin	NeoPharm and P&U/Alza and others	II	2002	Anthracycline	Various forms being developed by various companies. Probably additive.
Sataraplatin	BMS	III	2000	Platinum complex	Oral platinum analog w/toxicities comparable to carboplatin. Probably additive.
Taxol	BMS	II	2001	taxane	In various combinations with other chemo agents. Probably additive.
Taxolere	RPR	II	2001	taxane	In various combinations with other chemo agents. Probably additive.

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ABT-594

Descriptive Memorandum

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ABT-594 Opportunity Overview

ABT-594 is a non-opioid, non-NSAID analgesic that is a potent and selective neuronal nicotinic receptor (NNR) agonist being studied for the treatment of pain. ABT-594 is 30 to 100-fold more potent and equally efficacious to morphine in several well-characterized animal models of pain. The preclinical side effect and dependency liability profile of ABT-594 is superior to that of morphine.

ABT-594 is orally administered, and BID dosing is expected. Its initial targeted indication is symptomatic treatment of diabetic neuropathic pain. It is covered by a composition of matter patent through June of 2016, and also has a use patent pending in analgesia that would provide protection through September of 2017.

The IND filing of ABT-594 was in December 1998. A Phase IIb (dose ranging) trial began April 2000 in diabetic neuropathic pain. A Go/No Go decision for clinical efficacy is expected June 2001. The NDA filing is expected in 3Q2003. Development of additional formulations is under consideration (parenteral, transdermal, extended-release).

U.S. sales in 1999 for the key neuropathic pain treatments, Neurontin, carbamazepine, and tricyclic antidepressants (TCAs), are estimated to be \$350 million. Neurontin sales account for the bulk of this, with an estimated 40% of this antiepileptic drug's sales being for neuropathic pain. Neurontin's 2000 sales are expected to reach \$1 billion with perhaps 50% of its use in neuropathic pain. This dollar market value likely underestimates this market's potential due to a number of factors. Only the anticonvulsant, Tegretol (carbamazepine), currently off patent, and Lidoderm, a lidocaine patch, have specific indications for a type of neuropathic pain (trigeminal neuralgia and post-herpetic neuralgia, respectively) in the U.S. Currently, there is an unmet market need for novel neuropathic pain treatments such as ABT-594. Therefore, this compound is likely to be well received in this arena. Outside the U.S., Neurontin recently received an indication in the U.K. for the treatment of neuropathic pain. Despite these opportunities, there has been little to no funding from the pharmaceutical industry to improve diagnosis and treatment of neuropathic pain and drive market growth.

Ex-U.S. sales of carbamazepine and Neurontin for treatment of neuropathic pain are estimated to be approximately \$140MM in 1999. Carbamazepine is still the treatment of choice ex-U.S., with estimated sales of approximately \$90MM in neuropathic pain. Neurontin has achieved only \$53MM in sales for this pain segment, with a price approximately 3-4 times that of carbamazepine, suggesting a patient share of only 10-20%.

Nociceptive pain is categorized by duration (acute or chronic) and by severity (mild, moderate, and severe). The mild and, to a lesser extent, moderate segments have multiple product entries and are generally well satisfied by OTC products such as aspirin, acetaminophen and ibuprofen. The prescription market for nociceptive pain is made up of four key classes of analgesics: NSAIDs, COX-2s, Opioids (and combination products), and Other Non-Opioids. In 1999, sales for these four classes of analgesics exceeded \$12BB (\$6.7BB U.S., \$5.6BB Ex-U.S.)

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Market Size / Prevalence

Pain is the most common symptom of disease and the most frequent complaint with which patients present to physicians. Chronic pain, including both neuropathic and nociceptive pain, is considered to be the single most common cause of suffering and disability in the industrialized world with an estimated 25-30% of the population experiencing some form of chronic pain.

Neuropathic pain is a frequent sequela of diabetes, cancer, AIDS and other viral infections, as well as entrapment neuropathies such as carpal tunnel syndrome. Diabetes and its associated complications are increasing at an alarming rate in the United States. Despite advances in treatment, the development of diabetic complications such as neuropathy remains significant. The diagnosed prevalence of diabetic neuropathy is estimated to be about 2 to 3 million patients, with at least 10 to 20% of those patients experiencing painful symptoms (~200,000 to 600,000.) AIDS-related neuropathic pain is estimated to affect approximately 40% of HIV-infected individuals (~14 million.) Post-herpetic neuralgia (PHN) is another virally induced neuropathic pain syndrome. Annually, acute herpes zoster infection (shingles) occurs in almost a quarter of a million people over the age of 60 in the U.S. alone. Pain lasting more than one year has been reported in 22% of patients over the age of 55 and in 48% of those over 70 years of age. In cancer, nerves can be damaged by mechanical distortion from a tumor mass, infiltration by tumor, chemotherapy, or radiation therapy and, therefore, neuropathic pain is common. An estimate of the prevalence rate for cancer-related neuropathic pain in the U.S. is 200,000 people.

Chronic nociceptive pain categories include osteoarthritis (OA), chronic back and neck pain, rheumatoid arthritis (RA), and cancer pain. These diagnoses are expected to become more prevalent as the population ages. Current overall prevalence for these disorders is staggering (over 200 million worldwide) and, although the diagnosed and treated populations are lower, improved treatment options and awareness have the potential to drive significant growth. OA is one of the most common nociceptive pain conditions treated by primary care physicians and three-fourths of OA sufferers surveyed indicate that the disease interferes with their daily activities. Chronic back and neck pain are also highly prevalent and represent an estimated 40% of a primary care physician's (PCP's) chronic pain patient population.

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Competition, Current Marketed Products:

The following tables show the factored U.S. and ex-U.S. prescription and sales volume for key neuropathic pain therapies in 1999.

1999 Key Neuropathic Pain Products, Estimated TRxs				
Product/Class	1999 U.S. TRx (MM)	U.S. TRx CAGR '97-'99	1999 ex-U.S. TRx (MM)	ex-U.S. TRx CAGR '97-'99
Neurontin	3.3	26.3%	N/A	N/A
carbamazepine	1.0	12.6%	N/A	N/A
TCAs	8.2	1.1%	N/A	N/A
TOTAL	12.5	5.6%	N/A	N/A
Source: IMS, factored for neuropathic uses.				
N/A = not available				

1999 Key Neuropathic Pain Products, Estimated \$ Sales				
Product/Class	1999 U.S. Sales (\$MM)	U.S. Sales CAGR '97-'99	1999 ex-U.S. Sales (\$MM)	ex-U.S. Sales CAGR '97-'99
Neurontin	\$308	28.7%	\$53	57.6%
carbamazepine	\$17	13.1%	\$87	2.5%
TCAs	\$26	-3.3%	N/A	N/A
TOTAL	\$351	21.7%	\$140	10.1%
Source: IMS, factored for neuropathic uses; Ex-U.S. data includes retail pharmacy data from all audited markets				
N/A = not available				

Competition, Products in Development

Almost 100 compounds are currently in development for prescription pain management, though some of these compounds are also being developed for non-analgesic indications. Most of the analgesic compounds in the pipeline represent incremental improvements over the opioids or NSAIDs, or consist of new formulations or delivery mechanisms for the standard analgesics. Fewer than 30% of the compounds in development have novel mechanisms of action. Drugs with novel mechanisms are expected to provide the bulk of promoted competition for ABT-594.

In addition to the novel analgesics in the table below, a number of new formulation and combination products, most often containing an opioid, are in development. Second generation COX-2s are also in development but are not likely to represent major breakthroughs on the scale of the first generation products.

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Analgesia Development Pipeline – Key Novel Agents				
Product	Company	Mechanism	Phase	Comments
pregabalin	Pfizer	Unknown; possibly through (2 nd) subunit binding	III	Neuropathic pain; chronic pain, follow-up to Neurontin
saredutant	Sanofi	NK-2 receptor antagonist	II	General pain; MOA losing favor, active program
ZD4952, ZD 6416	Zeneca	Prostaglandin receptor antagonist	II	Moderate to severe pain, neurogenic pain
GV196771	Glaxo	Glycine antagonist	II	Chronic pain; showing promise
Tepoxalin	Johnson & Johnson	COX/5-LO inhibitor	II	OA, described as 'steroid replacing anti-inflammatory drug'
darbufelone	Parke-Davis	COX/5-LO inhibitor	II	General pain
117mSn DTPA	Brookhaven National Lab/Diatide	Unknown	II	Cancer pain Bone cancer (preclinical)
cizcirtine	Esteve	Substance P agonist	II	Analgesia, antipyretic
ADD 234037/ harkoseride	Houston University	Glycine NMDA associated antagonist	II	Neurogenic pain
LY303870/ lanepitant	Eli Lilly	Neurokinin 1 antagonist	II	Pain (migraine – discontinued)
colykade devacade	Merck	Cholecystokinin B antagonists	II	Pain (UK)
RPR 100893 depitant	Aventis	Neurokinin 1 antagonist	II	Pain (France)
prosaptide TX14A	Myelos Neurosciences	Unknown	I/II	Diabetic neuropathies, Pain
CNS 5161	Cambridge NeuroScience	Glutamate antagonist, NMDA receptor antagonist	I	Neurogenic pain
HCT-3012	NicOx	Nitric oxide NSAID	I	Pain and inflammation
Sources: ADIS, IMS, Decision Resources, company reports				

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Analgesia Development Pipeline – Nicotinic Mechanisms			
Product	Company	Phase	Comments
GTS-21	Taisho	II	Target is Alzheimer's disease; may have preclinical pain program; looking for partner
CMI 980	Cytomed	Preclinical	Target is pain; epibatidine analog
SIB-T1887	Sibia	Preclinical	Target is pain
FID 072021	Fidia	Preclinical	Target is pain; not actively funding
Sources: ADIS, IMS, company reports			

Unmet Needs

In general, a significant unmet need exists for safer, non-abusable, non-addicting, non-tolerance-producing, and non-scheduled efficacious oral and parenteral analgesic products for the treatment of moderate to severe neuropathic and chronic nociceptive pain.

Unmet Market Needs and the Impact of the Pipeline	
Unmet Need	Pipeline Impact
Efficacy in moderate to severe pain without tolerance, dependence or abuse potential	Novel nicotinic agents like ABT-594 may provide efficacy in more severe pain states without opioid-like liabilities.
Efficacy in neuropathic pain	Pregabalin may provide incremental improvement in neuropathic pain efficacy over gabapentin, but may also have increased frequency of adverse events. Novel nicotinic agents like ABT-594 appear to have efficacy in neuropathic pain, based on animal models.
Reduction in the GI bleeding risk of NSAIDs	COX-2 inhibitors appear to reduce the incidence and severity of GI ulcers and bleeding; second generation COX-2s may increase therapeutic window further; ABT-594 may need to demonstrate low G.I. complication rate.
Overcome ceiling effect of NSAIDs	Preclinical studies did not indicate a ceiling effect for novel nicotinic agents like ABT-594.
Extended dosage intervals or novel delivery mechanisms for improved compliance and convenience	Once weekly dosing formulations being explored for COX-2s, etc. Transdermal patch technology improvements likely; may need to provide line-extension / alternate formulations for ABT-594.
Therapies aimed at disease modification, prevention	Agents that decrease rate of diabetic complications (e.g., aldose reductase inhibitors) or directly treat neuropathy (bimoclonol) may decrease incidence of neuropathic pain; thereby decreasing available market for ABT-594.

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Product / Development Background

Scientific Rationale for ABT-594

Recent findings in the understanding of pain mechanisms have led to new conceptual approaches to clinical pain and a new understanding of potential novel molecular targets for analgesic drug development. Molecular targets have included modulators of glutamate neurotransmission (NMDA antagonists), ion channel modulators (neuron specific calcium channels, TTX-resistant sodium channels), neurokinin antagonists (NK-1), and novel anti-epileptics targeting the calcium receptor. None of these approaches has yet produced compounds exhibiting broad-spectrum analgesic efficacy with decreased side effect liability.

ABT-594 is a non-opioid, non-NSAID analgesic that is 30- to 100-fold more potent and equally efficacious to morphine in treating moderate to severe pain in several well-characterized animal models of pain. The preclinical side effect and dependence liability profile of ABT-594 is superior to that of morphine. Mechanistically, ABT-594 is a potent and selective neuronal nicotinic receptor (NNR) agonist with high oral bioavailability in rat, dog, and monkey.

In pre-clinical studies, ABT-594 rapidly distributes to the brain following systemic administration and, like morphine, can work at multiple levels in the central and peripheral nervous system to modulate pain perception. ABT-594 produces antinociceptive effects by interacting at both central and peripheral nAChRs. Injections of ABT-594 into brain at doses 1000-fold lower than given peripherally produce marked antinociceptive activity, indicating that ABT-594 can also activate descending pathways from the CNS to modulate pain processing. It also inhibits the release of the primary nociceptive transmitters, substance P and calcitonin gene related peptide (CGRP) *in vitro*, at the level of the dorsal horn of the spinal cord suggesting that ABT-594 can attenuate mechanisms leading to neurogenic inflammation, central sensitization and consolidation of pain-mediated neuronal changes.

ABT-594 is expected to be a highly differentiated product. It is expected to be the first neuronal nicotinic receptor agonist to receive an indication for pain. It has a novel mechanism of action and a potentially broad coverage of chronic pain conditions. In addition, it has an opioid-like efficacy without tolerance, dependence or abuse potential, while having equivalent/superior efficacy to other drugs used to treat neuropathic pain.

Clinical Studies

Human clinical trials began in 1997. Phase I trials with an oral solution formulation indicated that 150ug/day would be the maximum tolerated dose. Results from subsequent phase I and phase II trials with soft elastic capsule (SEC) and hard gelatin capsule (HGC) suggest that higher doses would be tolerated. Phase IIa studies with ABT-594 SEC formulation suggest a trend towards analgesic effect at 75ug BID, the maximum dose studied in this protocol. ABT-594 was generally well tolerated in these studies. The most common adverse events for subjects receiving ABT-594 75ug BID were nausea (15%), headache (13%), dizziness (7%), insomnia (6%), and vomiting (5%).

A phase IIb study for neuropathic pain at higher, titrated doses of ABT-594 began in April 2000 and ends in June 2001. A total of 320 patients is anticipated to be included in the study.

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Considerations**Target Profile:**

The current status of ABT-594's profile vs. target profile is summarized in the table below.

Target Profile Attribute	Probability
Not scheduled (DEA)	High
Very few abnormal Liver Function Tests	High
Few Drug interactions	High
BID / TID dosing	High
No reduced efficacy or increased AEs in nicotine users	High
Onset of action 1.5 – 2.0 hours	High
Neuropathic efficacy	Medium
No tolerance, dependence or withdrawal	Medium
Other safety OK	Medium
No cravings in ex-nicotine users	Medium
Low nausea / vomiting	Low

Label Strategy:

BASE: Indicated for the treatment of diabetic neuropathic pain.

- UPSIDE:
- 1) Treatment of pain associated with OA
 - 2) Treatment of post-herpetic neuralgia
 - 3) Treatment of neuropathic pain
 - 4) Treatment of chronic pain
 - 5) Treatment of cancer pain

Cost of Goods Sold:

The projected average daily dose is expected to be a maximum of approximately 600 mcg base equivalent / day. Based upon this dosage projection and the estimated cost of bulk drug substance of \$40M per Kg base equivalent, the estimated cost for drug substance at launch will be approximately \$0.024 per day.

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Pricing:

US: Pricing new, and particularly novel, products at a reasonable premium will likely continue to be the norm in the years leading up to the launch of ABT-594. Current forecast assumptions put the price of ABT-594 at a level comparable to Celebrex and Neurontin, grown at a modest 2% per year to launch year AWP of approximately \$95 for a 30 day prescription.

Ex-US: New pain medications must demonstrate a true advantage in efficacy and/or side effects to receive regulatory approval, especially by the European Medicines Evaluation Agency (EMA); assuming the target efficacy and tolerability profile of ABT-594 is achieved, ABT-594 would meet this requirement. Because ABT-594 may have application in both neuropathic and chronic nociceptive pain, the ex-U.S. pricing assumption for ABT-594 is comparable to COX-2 pricing. The current average price for COX-2's is approximately \$1.10 per day; however, this reflects a large percentage of sales in "free-pricing" countries, where COX-2s launched first, which tend to have higher than average prices. Therefore, the average ex-U.S. price for ABT-594 is assumed to be \$0.90/day.

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ABT - 751

Descriptive Memorandum

February 2001

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ABT-751

Opportunity Overview

Cytotoxic agents and hormones constitute the dominant classes of drugs available to treat cancer and are responsible for 96% of the total market. Since 1993, Taxol, a taxane developed and marketed by BMS, has been widely used. Another taxane, Taxotere, developed and marketed by Aventis, was launched in 1996. Combined worldwide sales of these two products were of nearly \$2 Billion US in 1999. Clinically, the development of drug resistance is the primary factor that limits the efficacy achievable with these drugs.

Abbott's anti-mitotic agent (ABT-751) is a novel, oral cytotoxic agent that acts by a mechanism similar to that of the taxanes but retains activity against taxane resistant cells. ABT-751 binds to the colchicine site on tubulin and inhibits the *in vitro* polymerization of microtubules. The interference with normal microtubule dynamics leads to a block in the cell cycle at the G2/M phase that ultimately results in the induction of cellular apoptosis. ABT-751 is a potent antimetabolic agent that inhibits the proliferation of a broad spectrum of human tumor derived cell lines including those that are paclitaxel and doxorubicin resistant due to the multidrug-resistant (MDR) phenotype or other genetic changes.

ABT-751 demonstrated impressive oral antitumor activity when evaluated in both syngeneic and human xenograft tumor models. The antitumor response was independent of the MDR status of the model, consistent with the activity observed in cell cultures. In sharp contrast with other cytotoxic drugs, the maximum tolerated dosage of ABT-751, on a q.d. 1-5 schedule, could be administered for an extended period (q.d. 1-21 or q.d. 1-28) resulting in a dramatic enhancement of the antitumor activity. These results suggest that the colchicine site ligands, such as ABT-751, will exhibit a broad spectrum of activity that will be distinct from that of other classes of antimetabolic drugs. Oral availability of the compound is high. Taxol and Taxotere, in contrast, have no oral bioavailability.

The most significant finding in toxicology studies was a change in systemic and pulmonary vascular resistance following intravenous infusion of ABT-751 to anesthetized dogs. These effects led to an inverse response in cardiac output. Similar changes were observed following infusion of a structurally unrelated colchicine-site ligand, and therefore most likely represent a class effect. Additional toxicology studies focusing on vascular pathology will be performed to further elucidate this finding.

ABT-751 was administered to patients with advanced cancer in Japan in a Phase I study. Toxicities seen after single doses and 5 days of q.d. dosing were nausea, vomiting, diarrhea, epigastric pain, ileus and peripheral neuropathy. Grade 2 toxicity was peripheral neuropathy and associated paresthesias. Pharmacokinetic analyses showed plasma concentrations equivalent to those that affected systemic resistance and cardiac output in the anesthetized dog study. However, no adverse cardiovascular effects were observed in the Japanese Phase I trial. Evidence of ABT-751 efficacy was exhibited in one patient with uterine sarcoma, one patient with NSCLC after single doses, one patient with gastric cancer and one patient with uterine cervical carcinoma demonstrated decreased tumor markers after repeated dosing.

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The planned initial Phase I study in the U.S. will determine the maximum tolerated dose and dose-limiting toxicities of ABT-751 given orally once a day or twice daily for multiple cycles in patients with advanced malignancies. In addition, pharmacokinetics in a western population, and optimal dose and schedule will be determined. Phase II studies will be initiated in patients with different cancer types:

- Refractory breast (taxane failures)
- Hormone refractory prostate
- Bladder
- Lung
- Cervical
- Hepatocellular
- Other possibilities: colorectal, sarcoma, renal cell, pancreatic, HNSCC

Cytotoxic agents represent the largest, and fastest growing, class of oncology agents by sales volume. The following chart summarizes the value of the current oncology market

Global Sales by Market Segment (\$ MM)

	1996 Sales	1997 Sales	1998 Sales	1999 Sales (est)	CAGR '96-'98
Hormone	4,414	4,784	4,884	5,000	5.2%
Cytotoxic	4,278	5,212	6,268	7,300	21.0%
Adjunctive	3,367	3,651	4,166	4,900	11.2%
Total	12,059	13,647	15,318	17,200	12.7%

Source: Datamonitor

Sales by Region (\$ MM)

	1996 Sales	1997 Sales	1998 Sales	1999 Sales (est)	CAGR '96-'98
US	5,564	6,276	7,422	8,500	15.5%
Ex- US	6,495	7,370	7,896	8,700	10.3%

Source: Datamonitor

This growth of the cytotoxic segment has been driven primarily by the introduction of new, more effective and expensive therapies such as Taxol (paclitaxel/BMS), Gemzar (gemcitabine/Lilly), Taxotere (docetaxel/RPR) and Hycamtin (topotecan/SB). Uptake of these newer agents, however, can be dependent on the cost sensitivity of the local market.

The clinical targets identified for this compound include late stage breast cancer, late stage NSCL cancer (on-label), with late stage ovarian and pancreatic cancer as additional cancer types where efficacy has been demonstrated, but not filed. This product may also be potentially efficacious in cancers such as gastric, colorectal, prostate, bladder, esophageal, hepatocellular (ex US), lymphoma, and leukemia. Targets will be refined as we know more about this compound's in-vivo activity.

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The following tables summarize the key competitive products by indication (US data only):

Late Stage Breast	
Product	Share
Cyclophosphamide/Cytosan/BMS	18.7
Doxorubicin/Adriamycin/P&U	17.11
Docetaxel/Taxolere/RPR	16.25
Paclitaxel/Taxol/BMS	16.11
Trastuzumab/Herceptin/Genetech	11.26

Late Stage NSCL	
Product	Share
Carboplatin/Paraplatin/BMS	50.32
Paclitaxel/Taxol/BMS	44.14
Vinorelbine/Navelbine/Glaxo	22.78
Gemcitabine/Gemzar/Lilly	22.14
Cisplatin/Platinol/BMS	11.28

Late Stage Ovarian	
Product	Share
Paclitaxel/Taxol/BMS	47.11
Carboplatin/Paraplatin/BMS	45.42
Topotecan/Hycamtin/SKB	22.54
Dox ST/Doxil/Alza	9.14
Cisplatin/Platinol/BMS	7.58

Late Stage Pancreas	
Product	Share
Gemcitabine/Gemzar/Lilly	78.5
5-FU/Efudex/ICN Pharma	21.0
Leucovorin/	10.7
Cisplatin/Platinol/BMS	4.72

Compounds in Development

ABT-751 induces a mitotic block by binding to the colchicine site on tubulin and thereby affecting tubulin polymerization. There are no currently available drugs which function by the mechanism described above. However, vinca alkaloids and taxanes fall into the broad category of anti-mitotics although they produce the anti-mitotic effect through different mechanisms. The following table summarizes anti-mitotic compounds in development.

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Company	Compound	Indication	Status of compound	Status of project
Colchicine-site ligands				
Oxgene	combretastatin-A4 phosphate	Tumor vasculature	Phase I	active
Tularik	T138607 (phosphate prodrug)	Cancer (unspecified)	Phase I	active
Tularik	T900607	Cancer (unspecified)	Preclinical	active
ICI/CRC	Amphethinile	Cancer (unspecified)	Phase I (abandoned 1988)	inactive
Wellcome Research	1069C	Cancer (unspecified)	Phase I (abandoned 1996)	inactive
NIH	Trimethylcolchicinic acid	Various tumors	Phase I (1990, abandoned)	inactive
Parke-Davis	CI-980	ovarian, colorectal	Phase II (abandoned 2000)	inactive
Vinca alkaloid-site ligands				
BASF	LU103793 (dolastatin 15 analog)	Cancer (unspecified)	Phase II (abandoned)	active
Servier	Vinxaltine	Cancer (unspecified)	Phase I	unknown
NCI	dolastatin 10	Adv. Cancers	Phase I	unknown
Teikoku Hormone	TZT-1027 (dolastatin 10 analog)	Cancer (unspecified)	Phase I (Jpn)	unknown
Lilly	LY 355703 (cryptophycin 52)	Cancer (unspecified)	Preclinical	unknown
Takeda	Maitansine	Cancer (unspecified)	Preclinical	unknown
Microtubule stabilizing agents (non-taxanes)				
Soc. Biotech. Res/ Bristol-Myers Squibb	Epothilone	Cancer (unspecified)	Preclinical	active
Bristol-Myers Squibb	eleutherobin	Cancer (unspecified)	Preclinical	active
Pharmacia & Upjohn	sarcodictyins	Cancer (unspecified)	Preclinical	active
Takeda	GS-164	Cancer (unspecified)	Preclinical	active

The novelty of this mechanism offers the promise of differentiation that will diminish the threat from potential competitors. However, this novelty is balanced by the similarity to current mechanisms, such as taxanes and vinca alkaloids, which suggests the promise of clinical efficacy. With the opportunity to be first or second to market with an agent that binds to the colchicine site, the competitive situation seems modest.

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ABT – 492

Descriptive Memorandum

February 2001

Abbott Laboratories

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Hancock_ABT 492

ABT 492

Overview

The commercial success of fluoroquinolones such as ciprofloxacin and levofloxacin, along with the desire to further improve the properties of these compounds (microbiological spectrum and safety, for example) has led to fierce competition to identify analogs with superior therapeutic properties. In addition, the development of resistance to present antibiotics will drive a continued need for new agents. Goals for a quinolone antibiotic include broad-spectrum indications equal to trovafloxacin, antibacterial activity comparable to trovafloxacin, tolerability comparable to levofloxacin, oral and intravenous formulations, once daily dosing, length of treatment equal to moxifloxacin, and an acceptable cost of goods. ABT-492, an In-licensed compound from the Wakunaga Pharmaceutical Co., is being developed for evaluation to meet these goals:

The *in vitro* antibacterial activity of ABT-492 was consistently more potent than trovafloxacin against most quinolone-susceptible pathogens, including species responsible for community and nosocomial respiratory tract infections, urinary tract infections, blood stream infections, skin and skin structure infections, and anaerobic infections. The compound has potent activity against multidrug-resistant *S. pneumoniae* (penicillin-, macrolide-, tetracycline-resistant) and retained activity against *S. pneumoniae* strains resistant to other quinolones including trovafloxacin. ABT-492 was also highly active against anaerobes and ciprofloxacin-susceptible *P. aeruginosa*. ABT-492 was as active as trovafloxacin against *C. trachomatis*, indicating good intracellular penetration. Thus, ABT-492 is likely to be a useful broad-spectrum antibacterial agent. The enhanced antibacterial activity of ABT-492 relative to ciprofloxacin, levofloxacin, and trovafloxacin is likely to be explained, in part, by its potent interactions with bacterial topoisomerases. ABT-492's equivalent activity against both the DNA gyrase and the topoisomerase IV of pathogens, give ABT-492 a potential for decreased development of resistance.

The *in vitro* potency data suggests that ABT-492 has the potential to be therapeutically effective at doses comparable to trovafloxacin and superior to levofloxacin. In addition, ABT-492 was consistently more potent than trovafloxacin against MRSA and vancomycin-resistant enterococci. In both these cases, however, therapeutic utility remains to be assessed in the clinical setting.

S. pneumoniae was chosen as the dose-defining pathogen since it is the key pathogen in severe respiratory tract infections and treatment of infections caused by this pathogen has traditionally been a weakness of most quinolones. For treatment of fluoroquinolone-susceptible *S. pneumoniae* respiratory tract infections, oral dosing may be similar to trovafloxacin based on data generated in lung infection models. Because of the excellent potency of ABT-492 against fluoroquinolone-resistant *S. pneumoniae* with an MIC₅₀ of 0.12 µg/ml, this group of emerging strains may be targeted as a key differentiation point from other quinolones. Also, data from the thigh infection model suggests significantly greater efficacy for ABT-492 than for trovafloxacin.

The Market

ABT-492 is broad-spectrum anti-infective agent with potential application across a broad range of indications, including respiratory infections, genito-urinary infections, and skin/soft tissue infections. It is assumed that a pediatric formulation would not be a part of the primary development plan due to the known adverse events caused by quinolones in pediatric populations. Nonetheless, reports of quinolone pediatric development has been reported (gatifloxacin), hence the pediatric market should be regarded as a potential upside for this quinolone should its safety profile merit its use in pediatrics.

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Current Treatment Options

Class	Mechanism of Action	Comments
Penicillins	Cell wall synthesis inhibitor	Mostly generic, class has seen significant decrease as a result of penicillin resistance.
Cephalosporins	Cell wall synthesis inhibitor	Some generic, class has seen significant decrease in use as a result of prevalence of β -lactamase producing strains and modification of penicillin-binding proteins.
Tetracyclines	Protein synthesis inhibitor	Generic agents, relatively high levels of resistance but are still useful in some indications.
Sulfonamides	Folic acid synthesis	Generic agents, relatively high levels of resistance but are still useful in some indications.
Macrolides	Protein synthesis inhibitor	Widespread use in RTI, macrolide resistance has been increasing rapidly, but has not yet translated into declines in clinical efficacy; <i>H. flu</i> activity continues to be class weakness, along with GI adverse events, drug-drug interactions, & taste perversion.
Quinolones	DNA synthesis inhibitor	Fastest growing antibiotic class, used in a broad spectrum of indications; class historically associated with poor Gram+ pathogen coverage and sub-optimal safety profiles; newer agents (Levaquin, Tequin, Avelox) have improved dramatically along both spectrum and safety dimensions.
Oxazolidinones	Protein synthesis inhibitor	Newest antibiotic class to reach market, due to limited Gram- profile will be used primarily in nosocomial setting.

U.S. Market

1999 U.S. antibiotic prescription and sales data are presented in the table below.

			1995	1996	1997	1998	1999	CAGR ₁₉₉₅₋₉₉
U.S.	TRXs (MM)	Tab/Cap	220	215	211	208	221	0.1%
		Oral Susp.	76	66	63	59	61	-5.3%
		I.V.	NA	NA	NA	NA	NA	NA
	Sales (\$MM)	Tab/Cap	\$4,057	\$4,220	\$4,467	\$4,848	\$5,715	8.9%
		Oral Susp.	\$1,075	\$979	\$977	\$1,001	\$1,120	1.0%
		I.V.	\$1,865	\$1,829	\$1,855	\$1,890	\$2,117	3.2%

Tab/cap and oral suspension prescriptions had been declining 1-2% per year in the period of 1995-1998, presumably from increased attention to appropriate prescribing in the face of increasing resistance; however, prescriptions recovered in 1999, though this may be explained at least in part by a relatively late 1998-99 flu season. Even in the face of this negative pressure on antibiotic use, however, sales in the U.S. have continued to increase, particularly in the tab/cap market. This is due to the trend of replacing relatively low-cost generic agents with higher priced premium antibiotics; during 1995-1999, generic tab/cap prescriptions declined by 30MM. So while negative pressure on the use of these antibiotics continues, it appears the market is willing to bear higher costs for agents that meet unmet need. The IV market has grown slightly in terms of sales, also being driven largely by the replacement of generic agents with more costly branded agents.

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Quinolones have seen dramatic growth, with oral and IV sales growing at 17% and 16% compound annual rates, respectively, from 1995-1999. This growth is a function of the newer quinolones successfully penetrating the RTI segment, which was initiated with the 1997 launches of Levaquin and Trovan (withdrawn) and continues with the recent introductions of Tequin and Avelox.

Ex-U.S. Market

Ex-U.S. sales of antibiotics totaled \$11.7 billion in 1999. The tab/cap represents the largest segment, with sales of \$9.4 billion on 770 MM TRX. TRX growth has been flat, with a 1996-99 CAGR of 0.5%; the use of antibiotics is predicted to slowly decline due to more judicious use of antibacterials in the face of increasing bacterial resistance.

Ex-US, the quinolone class accounted for 8% (62MM) of total tab/cap market prescriptions and 13% of sales (\$1.2 billion). Ciprofloxacin is the market leader ex-US, with approximately 47% of the quinolone market Rx's (29MM) and 44% (\$530MM) of sales. Levofloxacin launched in many European markets in 1998/1999 and holds approximately 14% Rx share of the European quinolone market, and 0.8% of the overall tab/cap market. Although grepafloxacin and trovafloxacin also launched in some European countries in 1999, both products were recently pulled from the market due to liver toxicity and other complications. Moxifloxacin launched in Germany in Q4 1999, but has not yet been approved in other markets. In Japan, levofloxacin launched in 1994 and still commands a 65% Rx share of the quinolone market and 10% of the Japanese tab/cap market overall. Japan accounts for approximately 80% of ex-US levofloxacin sales (\$370MM).

1999 Ex-US Tab/Cap Market						
Class	Sales (\$MM)	Sales Share	Sales CAGR '96-'99	TRXs (MM)	TRX Share	TRX CAGR '96-'99
Market	\$9,348	—	3.6%	770	—	0.8%
Quinolone Class	\$1219	13%	-12%	62	8%	NA
Cipro	\$530	5.7%	4.9%	29	3.8%	NA
Levaquin	\$466	5.0%	NA	18	2.3%	NA
Trovan	\$12	0.1%	NA	0.5	0.1%	NA

Competition

The anti-infective pipeline is very competitive, but most of the competition is focused on improving the activity and safety of the quinolones. Ketolide development is the only other area of activity which is in late stage of development. The quinolone compounds in present development may fall out because of safety or lack of activity against resistant pathogens.

Competitive Analysis -- Emerging Competition					
Product	Company	Class	Phase/Estimate d Time to Market	Country	Comment
Ketek (telithromycin)	Aventis	Ketolide	Filed 3/00 Est. launch 3/01	U.S.	Respiratory indications; filed NDA 3/00; 800 mg QD; first in ketolide class to reach market.

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D's Exhibit 820 - Part 4

Competitive Analysis – Emerging Competition					
Product	Company	Class	Phase/Estimated Time to Market	Country	Comment
Factive (gemifloxacin)	SKB	Quinolone	Filed 12/99 Est. launch 12/00	US	Superior to quinolones for MRSA; highly potent vs. RTI pathogens <i>H. flu</i> , <i>M. cat</i> , and <i>S. pneumo</i> and UTI pathogens <i>E. coli</i> and <i>P. mirabilis</i> , CRSP; potency > spar, trov, grep and \geq moxi; activity vs. <i>P. aeruginosa</i> ; good atypical and mycoplasma coverage; intracellular penetration; low photo/CNS tox; 700 patient database
Sitafloxacin	Daiichi Sankyo	Quinolone (IV only)	III II Est. launch 2002	Japan U.S., Europe	Very potent MRSA, pseudomonas and bacteroides activity; diarrhea, ALT, low WBC; will likely be target to severe rather than community infections
Ecenofloxacin	Chiesi Foods	Quinolone	II Est. launch 2002	UK	Active against UTI and RTI pathogens; superior to lome and oflo vs. <i>P. aeruginosa</i> . $T_{1/2}$ = 14-19 hr; will likely be target to severe rather than community infections
CS-940	Sankyo	Quinolone	II Est. launch 2002	Japan	Active against G+/G-; excellent activity against <i>H. flu</i> , <i>C. jejuni</i> , <i>M. pneumo</i> , and <i>C. trachomatis</i> ; greater potency than cipro; $T_{1/2}$ ~7 hr; BA~80%
T-3811	Toyama/BMS	Quinolone	I Est. launch 2005	Japan	Excellent potency and low toxicity
DC-756	Daiichi Pharma	Quinolone	Pre-clin Est. launch 2006	Japan	Low toxicity; in vitro potency \geq trov, STFX & HSR-903

Unmet Needs

Overall unmet need in the anti-infective market is low. Resistance represents the largest unmet need, which will continue to evolve over time. Satisfaction with other product attributes, such as convenience, spectrum of activity, and tolerability/safety is quite high. Any improvements in these areas will be incremental and will offer little in the way of differentiation.

ABT-492 is one of the most active agents against the resistant organisms. It has indications that will have a low propensity for the development of resistance. ABT-492 will be developed to maximize any opportunities to shorten therapy. ABT-492 was chosen from hundreds of quinolones because of its potential to be well tolerated and safe in humans. ABT-492 will have few interactions with other drugs.

Unmet Need	Pipeline Impact
Activity against resistant organisms	<i>Strep. pneumo</i> , MRSA, and VRE represent most problematic pathogens although new quinolones/ketolides do well with most resistant <i>Strep. pneumo</i> strains; quinolone-resistant <i>Strep. pneumo</i> may develop; pseudomonas resistance is also increasing; resistance will likely continue to be a source of unmet need due to its dynamic nature.
Low propensity for resistance development	Given that most compounds in development are from classes of drugs already in use, this need is largely unmet. Unclear how quickly resistance will build to new classes of drug; gatifloxacin claims 8-methoxy functional group results in lower propensity for resistance development
Convenience (duration/frequency)	Standard moves toward 5-7 days of therapy with QD dosing; may start to see 3-day therapies for some indications (AECB)
Increased tolerability	While some degree of unmet need exists, increasingly, agents (which have not been withdrawn) are reaching the marketplace with adverse event profiles that approach clinical insignificance; a very clean safety

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	profile should be regarded as a necessary component rather than a differentiating one
Few drug-drug interactions	Quinolones, macrolides, and ketolides all interact with other drugs to varying degrees; a potent drug with no interactions would be a benefit in this market

Considerations

Product Usage: Physicians are likely to use ABT-492 for the sicker patients with the most difficult infections to treat. In the outpatient arena it will be used to treat community-acquired pneumonia and acute bacterial exacerbations of chronic bronchitis in the older patients with an underlying illness. It will also be used in the hospital for the community-acquired pneumonia patient who requires hospitalization and for serious nosocomial infections.

While many regard quinolones as agents that should be reserved for 2nd line use, their activity against *H. influenzae* and resistant *Strep. pneumoniae* (which current macrolides do not offer) have resulted in a high level of acceptance for empiric 1st line use. The improved safety profiles of several recent quinolones have facilitated their use as 1st line agents. Provided that ABT-492 is proven to have a benign safety/adverse event profile, it will likely receive usage in both 1st-line (non-severe) and 2nd-line (severe) infections.

Side Effects: The quinolone class has potential prolongation of the QT interval and other cardiovascular effects. There is also increased regulatory scrutiny due to recent quinolone withdrawals from international markets. ABT-492 has been evaluated in the standard *in vivo* models used to evaluate QT interval potentials of other antibiotics and has shown no evidence of increasing QT. Also, compared to marketed quinolones, preclinical studies show no evidence or no increase incidence of CNS drug concentration (i.e. less potential for dizziness); phototoxicity, and liver toxicity.

Off-label use: It is difficult to predict at this time what off-label uses will be seen for this compound. Initial development will be for the more common respiratory, urinary tract, skin, and hospital infections. Other indications will be evaluated after the primary approval of this compound. Many of the secondary indications will get usage before we have regulatory approval.

COGS: The initial cost of goods is in \$6000/kg range, but will come down rapidly after the initial starting materials are determined. At time of launch ABT-492 will have a cost of goods in the \$1500/kg range which is competitive compared to other quinolones and other new antibiotics.

Dosing: Based on animal models and the *in vitro* activity of ABT-492 the dose for most oral indications will be in the range of 100 to 200 mg give once daily.

Development/Regulatory: Anti-infective compounds are well understood by regulatory agencies globally and they have clearly defined clinical development path and regulatory guidelines for reference. Abbott Laboratories has been in this arena for many years and has experience with the FDA and European regulatory agencies and so the hurdles to development are well known. ABT-492 has begun but not yet completed its first Phase I study in healthy volunteers.

Other Approaches: Because of the well defined development guidelines there are not many options. The major development options are in dosing regimens. ABT-492 is a very potent drug which has demonstrated rapid killing of pathogens *in vitro* and *in vivo*, and the development plan will attempt to shorten treatment durations to increase the competitive advantages of this activity.

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Pricing: The community infection market is quite competitive from a pricing standpoint, with recent quinolones priced at approximately \$45 per 5-7 days of therapy. The pricing strategy will depend on strengths/weaknesses of the ABT-492 product label, the competitive landscape at launch, and the managed care environment, but current pricing assumption is parity for ABT-492 with respect to other quinolones.

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ABT – 510

Descriptive Memorandum

February 2001

Abbott Laboratories

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ABT 510**Overview**

There is abundant evidence that primary tumor growth and metastatic progression require new blood vessel formation (angiogenesis). Tumors secrete inducer proteins including bFGF and VEGF that activate microvascular endothelial cells (EC) causing them to proliferate, migrate and organize into capillary structures. Activated endothelial cells also enhance malignant progression by producing signal molecules (cytokines) that inhibit programmed cell death (apoptosis) of tumor cells. Since anti-angiogenic therapy targets genetically stable endothelial cells, resistance typically seen following cytotoxic chemotherapy is not observed. Moreover, angiogenesis inhibitors should not have the intrinsic toxicity of anti-proliferative chemotherapy. Angiogenesis is also a feature of several other pathophysiologic states of large unmet medical need (macular degeneration, psoriasis, and arthritis, among others).

Angiogenesis sustains the growth and progression of tumors. Unlike chemotherapy or radiation, both of which can damage normal cells in addition to tumor cells, anti-angiogenic agents are hypothesized to prevent growth of new blood vessels and to disrupt critical tumor survival signals produced by EC. These agents may keep tumors in a dormant state for as long as the compound is administered and tumor regressions may occur. Proof of this principle has been demonstrated in pre-clinical models. Currently, at least thirteen compounds with anti-angiogenic activity in cancer are in various phases of clinical development, however few act directly and specifically on the angiogenesis process. Anti-angiogenesis drugs are not expected to replace or compete with current therapies. Instead, if these agents prove to be effective, it is believed that they will be used as supplemental therapy to prevent metastasis following surgery, cytotoxic chemotherapy or radiotherapy. As for cases where tumors have already metastasized, these agents could slow down disease progression and maintain "disease dormancy".

Thrombospondin-1 (TSP-1) was the first natural angiogenesis inhibitor to be discovered. TSP-1 is a large, multifunctional protein. TSP-1 rapidly inhibits EC migration and increases EC apoptosis through activation of caspase-3-like proteases. The normal tissue expression of TSP-1 limits inappropriate neovascularization, however it is transcriptionally activated by the tumor suppressor gene product p53. Therefore, TSP-1 is down-regulated and under-produced in p53 defective tumors. In rodent models, ectopic overexpression of TSP-1 inhibits the malignant phenotype as does direct administration of TSP-1 in the circulation. However, direct clinical use of TSP-1 is not feasible because of its scarcity, large size and multiple other biological functions.

The angiogenic activity of TSP-1 has been localized to the 50,000 MW N-terminal stalk region of this protein, and more specifically to the properdin (Type-1) repeats within this region. Although small synthetic peptides within this region have only weak antiangiogenic activity, it was discovered that a single D-amino acid replacement in a properdin region peptide led to an increase in activity of greater than 1000-fold. ABT-510 is a parenterally available nonapeptide. Although ABT-510 competes with TSP-1 for binding to the EC, the exact mechanism of anti-angiogenesis is unknown.

ABT 510 is supplied for clinical use as a sterile solution in acetate salt in 5% dextrose. ABT 510 is soluble and stable in water.

In vitro, ABT 510 inhibits chemotactic VEGF/bFGF-stimulated migration of human microvascular endothelial cells (EC) with an IC50 of approximately 0.250 nM. This effect is EC specific. ABT-510 (10mg/kg/day subcutaneously) blocks VEGF-induced corneal vascularization in mice. It potently and selectively competes with TSP-1, binding the CD 36 receptor.

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ABT 510 inhibits tumor progression in vivo. ABT 510(20mg/kg/day subcutaneous administration) inhibited tumor progression (78% growth inhibition at day 38) in a model of human breast cancer (MDA-MB-435) growing in the breast pads of nude mice. Dose dependent inhibition of B16F10 melanoma lung metastases was observed in a second murine model. ABT 526, a molecule highly similar to ABT 510 (which was not advanced into human trials because of concatamer formation) was administered to 23 companion dogs (25mg SQ BID) with sporadic cancers (head and neck carcinoma, lymphoma, sarcoma, etc) refractory to conventional chemotherapy. Surprisingly, 2 complete responses, 5 partial responses ($\geq 50\%$ shrinkage) and 6 cases of disease stabilization were observed.

Assays for toxicity, histamine release, hemolysis, T-cell function neutrophil migration, platelet aggregation, receptor (CEREP) screening and CNS function were unremarkable. ABT-510 produced no physiologically significant changes in cardiovascular or hemodynamic function in anesthetized dogs. In addition, there were no physiologically significant changes in clinical blood chemistry profiles or cardiac electrophysiologic function in response to ABT-510. Doses that were many times higher than the predicted efficacious concentration produced a moderate reduction in mean arterial blood pressure in conscious monkeys. ABT-510 was not mutagenic in the Ames assay. It is concluded therefore that ABT-510 has an excellent pre-clinical safety profile.

ABT-510 is currently in Phase I clinical trials. Because of its exceptional safety profile, normal volunteers are being dosed with ABT-510 to establish human safety and pharmacokinetic parameters. Review of these data will lead to a Go/NoGo decision for Phase II trials in the Summer of 2001.

The market

Cytotoxic agents represent the largest, and fastest growing, class of oncology agents by sales volume. The following chart summarizes the value of the current oncology market. The market for products to treat cancer is changing rapidly. It is a growing market fueled by:

- Increasing disease incidence
- New product entries
- New therapeutic paradigms
- A growing adjunctive market, which increases the number of patients eligible for chemotherapy
- Intense research and competition

The increase in the aging population in developed countries increases the incidence of cancer. The diagnosed cancer incidence and prevalence in seven major markets, including the U.S., France, Germany, Italy, Spain, U.K. and Japan are close to 3 million and 10 million respectively. The numbers are increasing steadily. Currently, about one-third of the new medicines in development are targeted against cancer.

Cancer is not a single disease, but includes more than 100 different disorders, which have at their core uncontrolled cell growth. Of these disorders, the cancer types that offer the greatest commercial opportunity include breast, colorectal, lung, ovarian and prostate (based on incidence/prevalence/unmet need). Treatment of breast, lung and prostate cancers account for more than 50 percent of the direct medical costs of cancer therapies. Other cancer types, specific to one or more of the major international markets, may provide niche opportunities. For instance, stomach (gastric) cancer is relatively common in Japan but not in the U.S. or Europe; similarly, liver cancer has a greater occurrence in Japan, Italy and Spain.

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Depending on tumor type, cancer can be treated with surgery, radiation, chemotherapy (cytotoxic), hormonal therapy or a combination of any of these. For the purpose of this analysis, we will define the cancer market as chemotherapeutics and the adjunctive therapies used to counter the effects of chemotherapy and radiation therapy. The following charts summarize the global sales for these products.

Global Sales by Market Segment (\$ MM)

	1996 Sales	1997 Sales	1998 Sales	CAGR '96-'98
Hormone	4,414	4,784	4,884	5.2%
Cytotoxic	4,278	5,212	6,268	21.0%
Adjunctive	3,367	3,651	4,166	11.2%
Total	12,059	13,647	15,318	12.7%

Source: Datamonitor

Sales by Region (\$ MM)

	1996 Sales	1997 Sales	1998 Sales	CAGR '96-'98
US	5,564	6,276	7,422	15.5%
Ex-US	6,495	7,370	7,896	10.3%

Source: Datamonitor

Chemotherapeutic agents

Cytotoxic therapies include classes such as alkylating agents, anti-tumor antibiotics, anti-metabolites and antimitotics (taxanes). These agents are toxic and demonstrate dose-limiting side effects. The commercial value of this segment is significantly understated, as most of the products are available in generic form.

The growth of the cytotoxic segment in the past three years has been driven primarily by the introduction of new, more effective and expensive therapies such as Taxol (paclitaxel/BMS), Gemzar (gemcitabine/Lilly), Taxotere (docetaxel/RPR) and Hycamtin (topotecan/SB). Utilization of these newer agents, however, appears to be dependent on the cost sensitivity of the local market. For example, secondary sources indicate that Taxol has recorded over 60% of its global sales in the US market alone and is prescribed with far less frequency in the more cost sensitive UK, German and French markets.

Most chemotherapeutic agents are indicated for just one or two cancer types, but get significant off-label use once approved. Up to 60% of an oncology product's use is potentially for off-label indications. Much of this use is driven by the publication of data and/or approvals in other countries.

Hormonal therapies

Of the top-selling drugs in each major geographical region, *hormone therapies* contribute approximately one-third of the sales ex-US and one-fourth in the US. Hormone therapies for the treatment of cancer include Lupron (leuprolide/TAP), Zoladex (goserelin/Zeneca), Nolvadex (tamoxifen/Zeneca) and other agents used to treat hormone responsive diseases such as prostate and breast cancer. These agents are generally administered chronically and have reduced side effects compared to cytotoxic therapies. Sales of this category are driven primarily by Lupron and Zoladex. The US market has become increasingly cost sensitive in the Medicare sector, which accounts for over 70% of Lupron sales.

Adjunctive agents

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The availability of effective *adjunctive agents* also allows the cytotoxic chemotherapeutic agents to be administered at higher doses and/or more frequently, or used in a more palliative role, since the adjunctive therapies can reduce the impact of the chemotherapy on the patient's quality of life. Agents in this class include immunostimulants, anti-emetics and bisphosphonates. The growth of this market is linked to the growth of the cytotoxic market, as the increased use of cytotoxic agents drives an increased use in adjunctive therapy. The highest selling product in this class is Neupogen (filgrastim/Amgen) with 1998 sales of over \$1 billion.

Biologic Therapy

New therapies under development offer the promise of fulfilling several unmet needs in the treatment of cancer. Experts have predicted that in the future early therapy for breast cancer will be dominated by biological approaches, such as monoclonal antibodies (Herceptin/Genentech), which is widely thought to have strong market potential. Genentech recently reported strong second quarter sales of the product in the US of \$46.2 million, and it is estimated that if only half of US women with breast cancer who over-express this gene received Herceptin, sales would top \$600 million. In addition to monoclonal antibodies, other biological approaches include vaccines and gene therapy.

Future Trends

Emerging science in the past decade offers the potential to radically alter the paradigm for cancer therapy and presents opportunities for fundamentally new ways of approaching the disease. New therapies offer the promise of fulfilling several unmet needs in the treatment of cancer. These include matrix metalloproteinase inhibitors (MMPis), continued expansion of biologics, photodynamic therapies (PDT), anti-angiogenics, and multiple drug resistance (MDR) modifiers. This market does not yet exist, though success of "cytostatic-like" treatments, such as hormonal therapies for prostate and breast cancer, suggests that the market potential for cytostatic agents could be significant.

Competition

The angiogenesis pipeline is very competitive, but this level of intensity is somewhat skewed by the large number of mechanistic approaches that are being claimed to demonstrate angiogenic activity. Furthermore, clear evidence of efficacy for these agents has not yet been demonstrated. For the purposes of this summary, only those compounds considered true anti-angiogenic compounds have been included. Companies with compounds in clinical development include Genentech, Entremed, Sugen, TAP, Magainin and Pharmacia Upjohn.

Angiogenesis Compounds in Clinical Development

Compound	Indications	Company	Phase
Neovastat	Solid tumors	Aetema	III
RhuMab VEGF	Cancer	Genentech	II/III
Vitaxin	Arthritis, psoriasis, CVR	Ixsys	II
SU-5416	Cancer	Sugen	II/III
TNP 470	Cancer, arthritis	TAP	II
Thalidomide	Cancer	EntreMed/BMS	I
Squalamine, squalus	Cancer	Magainin	I
RPI 4610	Cancer	Ribozyme	I
VEGF antagonist	Cancer, retinopathy	NeXstar	I
Angiostatin/Endostatin	Cancer	EntreMed	I

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Unmet Needs

Cancer remains the second leading cause of death in the United States, Europe and Japan, and consequently, offers an attractive market opportunity for the pharmaceutical and biotechnology industries. This year about 563,100 Americans are expected to die of cancer, more than 1,500 people a day. In the US, 1 or 4 deaths is due to some form of cancer. In 1999, about 1,221,800 new cancer cases are expected to be diagnosed.

For most cancers, the level of physician satisfaction with current therapies is low. It has long been recognized by researchers, physicians, patients and family members that current treatment options may often be as devastating as the underlying disease.

Unmet needs in this market vary by tumor types and stages, with some tumors responding to treatment with better mortality and/or morbidity results than others. However, cancer is still treated as a terminal illness with significant shortcomings in present treatments. In general, unmet needs include:

Need	ABT-510 Attribute
Enhanced efficacy of therapeutic agents	Potential for enhanced efficacy
Reduced toxicity	Potential for reduced toxicity over current cytotoxic treatment
Improvements in drug administration	TBD
Improved target delivery of cytotoxics and novel therapeutics	Unknown
Proven outcomes data	Quality of Life and Pharmacoeconomics to be assessed

Considerations

Product Usage: Physicians have indicated that they would use anti-angiogenic agents initially in their more refractory patients, as follow-on or add-on to current best therapy (chemo or surgical). With experience and clinical evidence, they would be willing to use these agents in earlier stages of the disease, where they perceived the greatest benefit to be. Anti-angiogenesis agents are regarded as a maintenance therapy to be used in early disease or after primary therapy as a prophylactic process to prevent the spread of malignancy. Of course, their ultimate use will depend on the benefit provided, which cannot be determined until clinical trials have been completed. Efficacy evidence in humans manifested by tumor response of the magnitude seen in the preliminary dog studies would stimulate tremendous enthusiasm in the oncology community.

Product Benefits/Efficacy: Physicians are looking for improvements in time to tumor progression and prevention of metastases with cytostatic agents. There is a great deal of enthusiasm for this mechanism in the scientific and lay audience. The concept is very intuitive. Products, such as ABT-510, that promise a clinical benefit without the usual toxic trade-offs associated with current chemotherapeutic agents, will be enthusiastically received by oncologists.

Side Effects: The proposed safety profile of anti-angiogenic agents may enhance usage, as the dose limiting toxicity profiles of most of the other available agents has established a much lower hurdle for demonstrating a preferred profile. However, as chronic therapy, anti-angiogenic agents may have to demonstrate a cleaner profile than cytotoxic agents do to ensure compliance.

Off-label use: Off label use accounts for between 30-60% of an oncology product's usage. Off-label use is driven by publication of clinical trial results in credible journals, listing in key compendia and/or a peer's experience with the product. Therefore, development spend for off-label use is considerably less than the spend required for regulatory approval of an indication. However, promotion of these off-label uses is limited.

Other indications: ABT-510 may be effective in other therapeutic roles, such as arthritic diseases and macular degeneration. These other indications may offer a commercial upside, through internal development or co-development/out-licensing opportunities.

Competition: While there are a relatively large number of angiogenesis inhibitors in development, it is unclear whether they will demonstrate a superior efficacy or side-effect profile vs. ABT-510. The mechanism of angiogenesis suggests that multiple anti-angiogenic approaches may be required to maximize the clinical benefit.

COGS: Initial estimates on finished cost of drug place it in the range of Lupron costs. Depending on final dosing requirements, the cost of this compound could become a significant obstacle. However, this will need to be considered in light of the pricing flexibility in the oncology market, where there is limited pricing sensitivity for products that are reimbursed. Any financial analysis will need to include royalty obligations to Northwestern University.

Dosing: There is still some uncertainty regarding the route of administration and feasible dosage forms for ABT-510. An "inconvenient" formulation leaves this product extremely vulnerable to competitors with more convenient dosage forms. A convenient dosage form, such as a monthly depot, will enhance product adoption over a less convenient form. However, the effect of the various dosage forms on product adoption will be dependent on the benefits the compound provides, side-effect profile and availability of competitive agents with more convenient dosage forms. For chronic therapy, convenience will play an important role in market penetration, given alternative agents. Although less convenient than oral therapy, parenteral therapy (depot, but not self-administered sub-cutaneous) is currently reimbursed by Medicare in the US. Over 60% of all cancer patients have Medicare as their primary healthcare coverage in the US.

Development/Regulatory: With a new class of compounds, there is not a clearly defined clinical development path or regulatory guidelines for reference. This hurdle is similar for all the competitive products, but increases the overall development risk profile for these agents. However, with several anti-angiogenic agents in late stage development, Abbott can learn from their experience.

Other Approaches: Other "cytostatic" approaches may present a competitive threat if they are used as substitutes. Due to the complexity of the pathogenesis of cancer, it is more likely that these agents will be used in combinations, but incremental benefits may become more difficult to demonstrate as the number of products and approaches multiply. This will require additional studies, as these other classes become part of standard cancer treatment. However, this threat is not unique to this compound.

Pricing: The treatment of cancer is expensive, so there is the potential for a great deal of pricing flexibility in this market. There is also an increasing emphasis on cost-effectiveness studies that will need to be addressed in the development plan.

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ABT - 518

Descriptive Memorandum

February 2001

Abbott Laboratories

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MMPi

Overview

Abbott's Matrix Metalloproteinase Inhibitor (MMPi) program represents a novel therapeutic class, with the potential to alter the way that cancer is treated by preventing or modifying disease progression and/or metastases. This more "chronic" approach to therapy has the potential to transform cancer into a disease that patients live with, much like the effect of HIV protease inhibitors on patients with AIDS. It also has the potential to expand the cancer market significantly by increasing the average length of treatment and expanding the pool of patients eligible to receive therapy.

The MMPs comprise a family of enzymes that degrade a wide range of matrix protein substrates. High expression of these enzymes occurs in cancer and is associated with the ability of tumors to grow, invade, develop new blood vessels and metastasize.

MMP inhibitors (MMPis) may suppress the progression of tumors by several mechanisms:

- Suppress invasion/metastasis by blocking the membrane traversal and access to blood/lymphatic vessels
- Blocking the remodeling of extra-cellular matrix in the vicinity of primary tumors to prevent stroma-bound growth factors from stimulating tumor growth
- Blocking angiogenesis by preventing the proliferation and migration of endothelial cells and neovascularization of tumor.

Experimental evidence suggests that gelatinase A and gelatinase B are particularly important in tumor progression, consequently the project team has targeted gelatinase selective inhibitors for the treatment of cancer. Another reason for targeting highly gelatinase-selective MMP inhibitors relates to the side effect profile exhibited by broad-spectrum agents like marimastat. Chronic administration of marimastat causes a dose-limiting side-effect characterized by severe joint pain and stiffness. Since these joint effects may be mediated by inhibition of other MMPs like fibroblast collagenase, highly gelatinase selective agents may be efficacious without producing dose-limiting side effects.

The MMP selectivity profile exhibited by ABT-518 distinguishes it from competitor's compounds. ABT-518 possesses sub-nanomolar inhibition potencies versus both gelatinase A and gelatinase B and is substantially more selective for the inhibition of the gelatinases over fibroblast collagenase than marimastat and prinomastat. Despite its high selectivity, ABT-518 demonstrates antitumor activity equal or superior to prinomastat. Inhibition of tumor growth is dose dependent in both syngeneic and xenograft models. ABT-518 is also effective in blocking vessel formation in a mouse model of angiogenesis. ABT-518 is a stable crystalline solid which can be synthesized in six steps (25% overall yield) from commercial starting material.

ABT-518 gives rise to sustained plasma concentrations following single oral dosing in monkeys, dogs and rats. Bioavailabilities range between 68 and 93% depending on formulation and species. Several metabolites are produced after repeated oral dosing of ABT-518, although their relative amounts varies with gender and species.

ABT-518 displays no meaningful effects in genotoxicity, cytotoxicity and ligand binding assays and its cardiovascular effects in dogs are unremarkable. ABT-518 produces no significant toxic effects in rats treated with 100 mg/kg/day over 28 days. Plasma concentrations generated by ABT-518 in these studies are at least 20-fold higher than those necessary to produce efficacy in cancer animal models. ABT-518 is therefore a compelling development candidate with the potential to

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demonstrate antitumor effects superior to the MMP inhibitors currently undergoing clinical trials. Phase 1 clinical trials in cancer patients began March 2001.

The market

Currently, cytotoxic agents represent the largest, and fastest growing, class of oncology agents by sales volume. The following chart summarizes the value of the current oncology market.

Global Sales by Market Segment (\$ MM)

	1996 Sales	1997 Sales	1998 Sales	1999 Sales (est)	CAGR '96-'98
Hormone	4,414	4,784	4,884	5,000	5.2%
Cytotoxic	4,278	5,212	6,268	7,300	21.0%
Adjunctive	3,367	3,651	4,166	4,900	11.2%
Total	12,059	13,647	15,318	17,200	12.7%

Source: Datamonitor

Sales by Region (\$ MM)

	1996 Sales	1997 Sales	1998 Sales	1999 Sales (est)	CAGR '96-'98
US	5,564	6,276	7,422	8,500	15.5%
Ex- US	6,495	7,370	7,896	8,700	10.3%

Source: Datamonitor

Cytostatic agents have the potential to alter the way cancer is treated and presents opportunities for fundamentally new ways of approaching the disease. This cytostatic market does not yet exist, though success of more cytostatic "like" treatments, such as hormonal therapies for prostate and breast cancer, suggest that the market potential for cytostatic agents could be significant.

The ultimate commercial and clinical success of the MMPI will depend on the clinical benefit this product provides in key cancer types compared with current best therapy. These can be benefits provided by dosing this agent in addition to current therapy and/or as an alternative to best therapy, or as a new component of best therapy. All currently available products, including the market leaders such as Taxol, have significant shortcomings in their profiles.

However, as novel therapy, MMPIs will probably be adopted initially as add-on the current chemotherapy. As benefits are proven and clinical experience is gained, these agents may be used in earlier stages of cancer and/or in conjunction with surgery or radiation to prevent the progression of any microscopic disease that remains.

The clinical targets identified for this compound include late stage pancreatic cancer, late stage NSCL cancer (on-label), with late stage ovarian and breast cancer as additional cancer types where efficacy has been demonstrated, but not filed. Other cancer types this compound may be efficacious in include SCL, colorectal, bladder, stomach and prostate. Targets will be refined as we know more about this compound's in-vivo activity.

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The following tables summarize the key marketed competitive products by indication (US data only):

Late Stage Breast	
Product	Share
Cyclophosphamide/Cytoxan/BMS	18.7
Doxorubicin/Adriamycin/P&U	17.11
Docetaxel/Taxotere/RPR	16.25
Paclitaxel/Taxol/BMS	16.11
Trastuzumab/Herceptin/Genetech	11.26

Late Stage NSCL	
Product	Share
Carboplatin/Paraplatin/BMS	50.32
Paclitaxel/Taxol/BMS	44.14
Vinorelbine/Navelbine/Glaxo	22.78
Gemcitabine/Gemzar/Lilly	22.14
Cisplatin/Platinol/BMS	11.28

Late Stage Ovarian	
Product	Share
Paclitaxel/Taxol/BMS	47.11
Carboplatin/Paraplatin/BMS	45.42
Topotecan/Hycamtin/SKB	22.54
Dox SL/Doxil/Alza	9.14
Cisplatin/Platinol/BMS	7.58

Late Stage Pancreas	
Product	Share
Gemcitabine/Gemzar/Lilly	78.5
5-FU/Efudex/ICN Pharma	21.0
Leucovorin/	10.7
Cisplatin/Platinol/BMS	4.72

Compounds in Development

The MMP inhibitor field is competitive. More than 30 firms have filed patents claiming small molecule MMP inhibitors over the past 5 years, and several companies have compounds in advanced clinical development. Abbott's compound may be 3rd or 4th to market and will have to demonstrate a competitive advantage to gain the share necessary to support the clinical development of this compound. Companies with compounds in advanced clinical development for the treatment of cancer include Agouron/Warner Lambert/Pfizer, British Biotechnology/Schering Plough and BMS and are listed below. Other companies are targeting this mechanism for arthritis.

MMPis in Clinical Development for Cancer

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Compound	Company	Comments	Phase
Marimistat	BritishBiotechnology/ Schering Plough	Broad spectrum, dose limiting toxicity. Activity seen in gastric cancer, but negative results in pancreatic.	III
Prinomastat	Agouron/ Wamer Lambert/ Pfizer	Moderate gelatinase selectivity, dose limiting toxicity. May be dosing sub-optimally to avoid toxicity. Efficacy data not available.	III
BMS 275291	BMS	Broad spectrum, joint effects seen in Phase I studies.	II

Bayer recently dropped development of BAY 12-9566 due to concerns about potential toxicity. Recent results from a study with marimistat in pancreatic cancer, where adding marimistat to Gemzar resulted in no survival advantage, has led to speculation that MMPis may be more applicable in less aggressive cancer types or earlier stages of the disease. Alternatively, it could be a reflection of the inability to examine higher doses of marimastat due to joint effects.

The joint effects produced by the compounds listed above almost certainly preclude their long-term use, limit compliance and reduce optimal efficacy. Any MMP inhibitor that lacks these side effects will possess a substantial competitive advantage. The musculoskeletal effect produced by marimastat and prinomastat in cancer patients is typically described as arthralgia, myalgia and tendinitis, which occurs predominately in the upper limbs. While mild cases respond to analgesics, interrupting therapy for a period of approximately 2 weeks is necessary when the condition is less well tolerated.

Although Abbott's timing to market is not optimal, the shortcomings of the competitive products provide an opportunity for a compound with an improved SE or efficacy profile. Current animal models seem to predict Abbott's compound is superior to those currently in clinical trials, and has the potential to be best in class.

Product profile

The objective of a product profile at this time in the product's development is to provide a target for the types of attributes that will be required to be commercially successful. This profile is based on market research with oncologists and consultation with opinion leaders. This profile will continue to be refined as more is known about this product's profile, development of competitive products and the market continues to evolve.

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	Base	Optimal
Efficacy	ABT-518, alone or in combination with best therapy, provides at least one of	Provides more than one of the efficacy benefits outlined.

	<p>the following benefits in at least one solid tumor type:</p> <ul style="list-style-type: none"> - Increased survival - Tumor regression - Improved quality of life - Increased time to tumor/disease progression 	
Competitive advantage	ABT-518 will need to demonstrate a clinically significant advantage in efficacy (see parameters above) or additive synergistic activity with current/competitive agents or clinically significant advantage in side-effect profile relative to other MMPI agents.	Same
Administration	Convenient administration relative to competitive agents.	Same plus reimbursement in US market.
COGS	A finished cost of goods that is consistent with at least an 80% standard manufacturing margin.	A finished cost of goods that is consistent with at least a 90% standard manufacturing margin.

Marketing overview

Product Usage: Physicians have indicated that they would use MMPIs initially in their more refractory patients, as follow-on or add-on to current best therapy (chemo or surgical). With experience and clinical evidence, they would be willing to use these agents in earlier stages of the disease, where they perceived the greatest benefit to be. The MMPI was regarded as a maintenance therapy to be used in early disease or after primary therapy as a prophylactic process to prevent the spread of malignancy.

Product Benefits/Efficacy: Physicians are looking for improvements in time to tumor progression and prevention of metastases with cytostatic agents. The MMPI mechanism has more recently been implicated as having an even more active role in cancer pathogenesis, from preventing primary tumor growth to anti-angiogenic properties. Positive results from competitive agents, such as marimistat in gastric cancer, provides proof of principle for this mechanism.

Side Effects: The proposed safety profile of MMPIs (excluding joint toxicity) may enhance usage, as the dose limiting toxicity profiles of most of the other available agents has established a much lower hurdle for demonstrating a preferred profile. However, as chronic therapy, MMPIs may have to demonstrate a cleaner profile than cytotoxic agents do to ensure compliance. As the 3rd or 4th MMPI to market, SE hurdles will be even higher for this compound. As a critical Go/No Go decision point, the joint toxicity of this compound will be evaluated in an expanded Phase I multi-dose study.

Dosing: Discovery is currently targeting an oral dosage form. In general, oral therapies are acknowledged by physicians and patients as being more convenient to the patient. Chronic oral dosing may also reduce overall costs, as infusion support products and personnel would not be required, enhancing pharmacoeconomic evidence.

COGS: Initial estimates on finished cost of drug suggest that drug costs will not be significant for this compound

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Off-label use: Off label use accounts for between 30-60% of an oncology product's usage. Off-label use is driven by publication of clinical trial results in credible journals, listing in key compendia and/or a peer's experience with the product. Therefore, development spend for off-label use is considerably less than the spend required for regulatory approval of an indication. However, promotion of these off-label uses is limited.

Competition: As the 3rd or 4th MMPI to market, Abbott's compound will need to demonstrate a meaningful clinical advantage over compounds that are in more advanced development. Strict Go/No Go criteria will determine if the MMPI can meet these hurdles. If they cannot be met, the compound will not move forward.

Development/Regulatory: With a new class of compounds, there is not a clearly defined clinical development path or regulatory guidelines for reference. This hurdle is similar for all the competitive products, but increases the overall development risk profile for these agents. However, with several MMPIs in late stage development, Abbott can learn from their experience.

Other Approaches: Other "cytostatic" approaches may present a competitive threat if they are used as substitutes. Due to the complexity of the pathogenesis of cancer, it is more likely that these agents will be used in combinations, but incremental benefits may become more difficult to demonstrate as the number of products and approaches multiply. This will require additional studies, as these other classes become part of standard cancer treatment. However, this threat is not unique to this compound.

Pricing: The treatment of cancer is expensive, so there is the potential for a great deal of pricing flexibility in this market. However, as an oral therapy in the US market, there may be additional downward price pressure for this agent. There is also an increasing emphasis on cost-effectiveness studies that will need to be addressed in the development plan.

Dosing: Discovery is currently targeting an oral dosage form. In general, oral therapies are preferred by physicians and patients because of the convenience to the patient. However, this form may not be the best choice for some people who already have certain digestive system symptoms (vomiting, diarrhea, or severe nausea), cannot swallow liquids or pills, or cannot remember when or how many pills to take. Additionally, in the US market there are several unique factors that currently do not favor oral therapies. Novel oral therapies are not currently reimbursed by Medicare, a significant payer for the oncology patient population. Also, 40-60% of a community oncologist's income is generated through the administration of IV drugs. An oral therapy would not be a source of revenue to the physician.

Clinical Studies

Clinical studies across a wide range of solid tumors will be initiated, including but not limited to breast cancer, non small cell lung cancer, ovarian cancer, pancreatic cancer, etc...

Final indications pursued will depend from the results of the phase II studies.

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Farnesyltransferase Inhibitor

Descriptive Memorandum

February 2001

Abbott Laboratories

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JH 008200

Overview

The Ras genes were the first oncogenes of mammalian origin to be discovered. Intensive research over the last decade has led to the elucidation of the normal function of cellular Ras protein, the role of Ras mutations in oncogenic transformation, and the identification of molecular targets, such as the enzyme farnesyltransferase, for inhibiting Ras activity. Although farnesyltransferase inhibitors (FTIs) were initially designed with the intention of inhibiting the posttranslational prenylation, and hence function, of Ras, it is now becoming apparent that farnesylated proteins other than Ras (e.g., RhoB) are also critical for malignant growth and may be the relevant target for inhibition of farnesylation. While it remains controversial whether blocking Ras activity or altering the RhoB prenylation status is the actual function of an FTI, these agents, exemplified by ABT-839 and FTIs in the clinic, exhibit remarkable anticancer activity against a wide variety of tumors in preclinical models. The current FTI program is projected to reach DDC status in January, 2001.

Abbott evaluated one FTI, ABT-839, in normal volunteers, but decided to discontinue development of this drug due to its poor pharmacokinetic profile. Invaluable experience was gained, however, from both the preclinical and clinical studies with this compound. Abbott's second-generation series are novel structures that exhibit significantly improved potency and oral bioavailability.

There continues to be tremendous enthusiasm in the medical community and pharmaceutical industry for this mechanism of action. Farnesyltransferase inhibitors have demonstrated impressive antitumor activity in preclinical models with activity equivalent to or better than that achieved with conventional cytotoxic chemotherapy given at the maximal tolerated dose. These agents appear to inhibit angiogenesis and, consistent with this activity, minimal resistance has been observed in preclinical models. The potential also exists for synergistic activity in combination with cytotoxic chemotherapy.

The market

Cancer remains the second leading cause of death in the US, and consequently is an attractive market opportunity for the pharmaceutical/biotechnology industries. Approximately 40% of all Americans will develop cancer in their lifetime.

The worldwide cytotoxic and hormonal cancer therapies market is highly fragmented with only BMS and Zeneca holding a greater than 10% market share. Although the market is not concentrated, the field is highly competitive with more than 60 companies focused on the cancer research area. The growth of the oncology market is fueled by increasing disease incidence, new product entries, new therapeutic approaches, a growing adjunct therapy market that expands the number of patients eligible for chemotherapy, and intensified research competition. The data in Tables 1 and 2 summarize the value of the current oncology market. A great deal of uncertainty surrounds the concept of cytostatic treatment of cancer. Conceptually it may transform the way cancer is treated, allowing patients longer disease free survival and improved quality of life. However, at this point in development, this paradigm does not exist in cancer. Considering market, clinical and patient dynamics factors, breast, colorectal, prostate and non-small cell lung cancers are the most attractive targets for development.

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Table 1. Global sales by market segment (\$ MM)

	1996 Sales	1997 Sales	1998 Sales	1999 Sales (est.)	CAGR '96-'98
Hormone	4,414	4,784	4,884	5,000	5.2%
Cytotoxic	4,278	5,212	6,268	7,300	21.0%
Adjunctive	3,367	3,651	4,166	4,900	11.2%
Total	12,059	13,647	15,318	17,200	12.7%

Source: Datamonitor

Table 2. Sales by region (\$ MM)

	1996 Sales	1997 Sales	1998 Sales	1999 Sales (est.)	CAGR '96-'98
US	5,564	6,276	7,422	8,500	15.5%
Ex-US	6,495	7,370	7,896	8,700	10.3%

Source: Datamonitor

Cytostatic agents have the potential to alter the way cancer is treated and presents opportunities for fundamentally new ways of approaching the disease. This cytostatic market does not yet exist, though success of more cytostatic "like" treatments, such as hormonal therapies for prostate and breast cancer, suggest that the market potential for cytostatic agents could be significant.

The ultimate commercial and clinical success of the FTI will depend on the clinical benefit this product provides in key cancer types compared with current best therapy. These can be benefits provided by dosing this agent in addition to current therapy and/or as an alternative to best therapy, or as a new component of best therapy. All currently available products, including the market leaders such as Taxol, have significant shortcomings in their profiles.

However, as novel therapy, FTIs will probably be adopted initially as add-ons to current chemotherapy. As benefits are proven and clinical experience is gained, these agents may be used in earlier stages of cancer and/or in conjunction with surgery or radiation to prevent the progression of any microscopic disease that remains.

The clinical targets identified for this compound include late stage pancreatic cancer, late stage NSCL cancer (on-label), with late stage ovarian and breast cancer as additional cancer types where efficacy has been demonstrated, but not filed. Other cancer types this compound may be efficacious in include SCL, colorectal, bladder, stomach and prostate. Targets will be refined as we know more about this compound's in-vivo activity.

The following tables summarize the key marketed competitive products by indication (US data only):

Late Stage Breast	
Product	Share
Cyclophosphamide/Cytoxan/BMS	18.7
Doxorubicin/Adriamycin/P&U	17.11
Docetaxel/Taxotere/RPR	16.25
Paclitaxel/Taxol/BMS	16.11
Trastuzumab/Herceptin/Genetech	11.26

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Late Stage NSCL	
Product	Share
Carboplatin/Paraplatin/BMS	50.32
Paclitaxel/Taxol/BMS	44.14
Vinorelbine/Navelbine/Glaxo	22.78
Gemcitabine/Gemzar/Lilly	22.14
Cisplatin/Platinol/BMS	11.28

Late Stage Ovarian	
Product	Share
Paclitaxel/Taxol/BMS	47.11
Carboplatin/Paraplatin/BMS	45.42
Topotecan/Hycamtin/SKB	22.54
Dox SL/Doxil/Alza	9.14
Cisplatin/Platinol/BMS	7.58

Late Stage Pancreas	
Product	Share
Gemcitabine/Gemzar/Lilly	78.5
5-FU/Efudex/ICN Pharma	21.0
Leucovorin/	10.7
Cisplatin/Platinol/BMS	4.72

Emerging science within the past decade has radically altered the paradigm for cancer therapy and presents opportunities for fundamentally new ways of approaching the disease. Abbott has multiple discovery cytostatic targets, which may improve effective, but we are not alone: more than 200 compounds from other players are in development. The goal of cytostatic therapy is to improve quality of life, controlling the disease and transforming aggressive treatment to a chronic condition, which has been compared to the impact of protease inhibitors on the course of HIV.

Clinical Studies

Considering all the factors, market, clinical and patient dynamics, breast, colorectal, prostate and non-small cell lung cancer appear to be the most attractive targets for development. The development of cytostatic agents faces a number of challenges as regulatory agencies and physicians evaluate the new emerging paradigm of cancer therapy.

Despite the enormous medical need, drugs for chronic treatment/disease stabilization and improved quality of life for cancer patients do not yet exist. Correspondingly, animal models test efficacy that has not yet been validated as predictive of response in humans. Medical oncologists have historically depended on determination of maximum tolerated dose and response manifested by tumor shrinkage for cancer drug development. These parameters are not relevant to novel "cytostatic" agents. Combination with conventional cytotoxic drugs will be required in the near term and will have to be determined empirically. Intermediate and surrogate measures of biological response will have to be developed. Regulatory agencies are grappling with the same issues.

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Competition:**Within Project Approach**

Company	Compound	Indication	Status of compound	Status of project
Jaessan Pharmaceuticals	R-11577 (A-251076)	Cancer (unspecified)	Phase III	active
Schering-Plough	Sch66336 (A-285622)	Cancer (unspecified)	Phase II	active
Merck	L-778123	Cancer (unspecified)	Phase I (I.V.) abandoned	unknown
Bristol-Myers Squibb	BMS-214682	Cancer (unspecified)	Phase I	active
LG Chemical	LB 42908	Cancer (unspecified)	preclinical	active
Rhône-Poulenc Rorer	quinuclidine derivatives	Cancer (unspecified)	preclinical	active
Pfizer	unknown structure	Cancer (unspecified)	preclinical	active
Parke-Davis	unknown structure	Cancer (unspecified)	preclinical	abandoned project
Roche	peptidomimetics	Cancer (unspecified)	preclinical	abandoned project
Eisai	peptidomimetics	Cancer (unspecified)	preclinical	unknown
Banyu	FPP mimetic	Cancer (unspecified)	preclinical	active
ISIS	ISIS-2503 (ras antisense)	Cancer (unspecified)	Phase I	

Within Therapeutic Area

Approach	Selected Compounds	Company(ies)	Status
antisense	ISIS 3521, ISIS 5132	ISIS	phase I
cytotoxic agents	camptothecin, CI-980, farestin, Ganazar, Hycanatin, Indirubin, Novazabrone, Onconase, Capecitabine, Topotecan	P&U, Warner-Lambert, Schering, Lilly, SKB, P&U/Immunex, Alkermes, Roche, Zeneca	most phase III
differentiation	targetin, panretin, 5-azacytidine	Ligand, NCI	Ligand in phase III/IV
drug resistance modifiers	VX-710, 776C85, RMP-7, CI-2584	Vertex, Glaxo Wellcome, Alkermes, Cell Therapeutics	Vertex in phase II
gene therapy	Onyx-015, MDR1, GU-328, IL-2, GV-1301	Onyx, Introgen, Taseon Biologics, Theragen, Genetic Therapy, Cyclacel, RPR Genecell, GeneMedicine, Titan, etc	Restricted to accessible cancers. Most advanced: Phase III
hormonal therapy	Zolodex, amideks, droloxifen, Oncolar, Rivizor, Casodex, roglefinide	Zeneca, Pfizer, Novartis, Janssen, US bioscience	most phase III
immunotherapy			
antibodies	IDEC-Y2/m2B8, anti-HER2, anti EGFR	IDEC, Genetech, ImClone	IDEC recently approved, others phase III
cytokines	IL-12, IL-4, Proleukin, Roferon-A	Roche, Schering, Chiron, Roche	phase III
vaccines	rV-gp100, Genevax, MGV	Apolon, Therfort, Progenics	phase I, II
photodynamic	photobin, promycin	QLT photo, Vion	phase III
radiation sensitizers	Neu-Sensamide, radiryl	Oxgene, Roberts	phase II, III
metalloproteinase inhibitors	marimastat, AG-3340, CGS-27023A	British Biotech, Agouron, Novartis, Bayer	B&T in phase III
angiogenesis inhibitors	TNP-470, SU-5416, anti VEGF-mAb, thalidomide, DC101	TAP, Sugen, Genentech, Entremed, ImClone, etc	see angiogenesis project review for details

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Competitive Analysis

The project is on par with others in the industry. While second generation Abbott compounds are not yet in clinic, all of the compounds from other companies that are in clinical trials have deficiencies. While the Schering compound has the best oral PK profile, it is not particularly potent. The Janssen compound is potent, but has a poor PK profile. The Merck compound exhibited QTc prolongation and development has been stopped. The Bristol Myers Squibb compound, BMS-214662, which is in phase I, is an *in vitro* submicromolar inducer of apoptosis in human tumor cells and appears to be the most potent inducer of apoptosis of the known FTIs. This compound could have a different mechanism of action from the classical FTIs and have its own liabilities. LG42908 from LG Chemical is potent FTI and has good oral bioavailability (F= 91% in monkey), however, it's a CYP3A4 inhibitor and will have significant drug-drug interaction liabilities. Extensive preclinical pharmacology at Abbott has defined optimum parameters for a FTase inhibitor that may not be known to our competitors, or be achievable with the current generation of FTIs. Although not yet established, we anticipate that the Abbott compound will be improved over competitors' compounds with respect to potency, oral bioavailability, half-life, toxicity, efficacy, angiogenesis inhibition, and lack of resistance.

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**DOPAMINE RECEPTOR AGONIST
PROGRAM**

Descriptive Memorandum

February 2001

Abbott Laboratories

**CONFIDENTIAL
JH 008206**

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D4 Agonists for Male Erectile Dysfunction

Scientific Overview

Male erectile dysfunction (MED) is defined as the "inability to maintain an erection sufficient for satisfactory sexual intercourse" (NIH Consensus Panel) and results from physiological (organic), psychogenic causes, or a combination thereof. This disorder is associated with decreased quality of life, including personal well being, and diminished family and social relationships. In 1999, an estimated 77 million men over the age of 40 (52% of men over 40 years-old) in the seven major pharmaceutical markets experienced some degree of MED, and the prevalence increases with age. Approximately 10-20% of patients have severe or complete MED, and the majority of the population suffers from moderate disease. While the introduction of Viagra has increased the diagnosis rate of MED in the U.S., 75% or more of patients do not seek treatment. However, as the "baby boomer" generation ages, MED will become a more prominent concern and a growing number of patients are likely to seek treatment.

Abbott's male erectile dysfunction program targeting D4 dopamine receptors represents a novel therapeutic approach to the rapidly growing male erectile dysfunction (MED) market. The current gold standard for the treatment of MED, Viagra, acts peripherally at the penile smooth muscle level to induce erection by modulating the levels of cGMP. In contrast, a selective D4 dopamine agonist will act in the brain at the sites necessary for initiation of a successful erection. Targeting the D4 receptors in brain offers the potential for efficacy in patients with MED that do not respond to Viagra (for example patients with diabetes). Additionally, targeting D4 receptors should not result in any cardiovascular adverse events unlike Viagra which can cause serious cardiovascular effects in patients who are on nitroglycerine-based medications. Since safety is of paramount importance for any life-style disorder like MED, a new agent that does not have any contraindications or warnings related to safety issues may be positioned to become the gold-standard therapy.

Evidence for the potential of a selective D4 dopamine receptor agonist for the treatment of erectile dysfunction includes:

- The non-selective dopamine receptor agonist apomorphine (UprimaTM) has been shown to be effective in phase III clinical trials, and has received scientific approval for market in the EU, for the treatment of MED. This validates the utility of dopaminergic agonists to facilitate penile erections in humans. However, the clinical development of apomorphine for the US market has been hampered by dose limiting side-effects (emesis and syncope).
- Studies at Abbott have established that the efficacy of apomorphine (penile erection) and side-effect (emesis) are mediated by different dopamine receptor subtypes. There are 5 known dopamine receptors. Abbott scientists have discovered that the selective activation of D₄ receptors can facilitate penile erection in animals, while the D₂ receptor appears to mediate the emetic effect of apomorphine. The discovery of a D₄ selective agonist maximizes the possibility to identify a compound with equivalent/superior efficacy to apomorphine but devoid of its side-effect liabilities.

PPD is currently screening the Abbott library of compounds to identify novel and proprietary D4 dopamine receptor compounds. Initial hits have been identified that are as potent as any known D4 dopamine receptor agonist. The strategy is to aggressively profile these hits for selectivity across the five different dopamine receptor subtypes and to ensure that selective agents are effective in a number of preclinical in vivo models of MED and have no emetic or cardiovascular side effects. The D4 dopamine receptor agonist program will be discontinued if selective D4 agonists do not achieve at least a 30-fold separation between efficacy in a model of MED and cardiovascular/emetic side effects.

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Abbott has a competitive advantage in the race to exploit selective D4 dopamine receptor agonists for MED. A patent application covering the use of any selective D4 agonist for the treatment of MED has been filed and no other pharmaceutical company may have the range of preclinical models of efficacy and safety in addition to access to the clinical information gained from the development of apomorphine. Our molecular modeling group has facilitated advances in the design of selective D4 agonists.

Market Analysis

The introduction of Viagra combined with increased disease awareness resulted in the MED market in the US exploding from \$157MM in 1997 to an estimated \$726MM in 2000. Worldwide, this market has seen similar growth, and is estimated at \$500MM for ex-US for 2000. Viagra currently dominates the MED market, with more than \$1billion in sales in the \$1.3 billion worldwide market in 1999, and >95% of the MED prescriptions in the US. The market growth is expected to continue, with an estimated CAGR in the US of 17.9% (2000 – 2005), fueled by increased awareness of MED, expanded use to wider patient segments for relationship or performance enhancement, and the introduction of heavily promoted new agents. Downward pressure on growth will come from continued perceptions of safety concerns, the limited efficacy of ViagraTM, and out-of-pocket cost to patients.

Market drivers influencing the potential of a D4 dopamine receptor agonist include:

- Patient Awareness and Demand Viagra has built considerable awareness of MED. However, in the US, only 10-25% of current MED patients seek treatment for this disorder. Ex-US the percentage of patients seeking treatment is lower (10%). This is mainly due to the lack of DTC promotional campaigns in the ex-US markets. Further market expansion requires continued patient and physician education.
- Product Safety: There are growing patient and regulatory concerns regarding the safety of Viagra. While, physicians currently perceive ViagraTM to be safe, if used by the correct patients, there is significant concern regarding the concomitant use of nitrates for cardiovascular disorders with Viagra. Approximately 10% of Viagra patient deaths have been attributed to use of nitrates. Thus, there is an opportunity to eliminate this concern for physicians and to expand the market.
- Product Efficacy: In clinical trials Viagra allowed successful intercourse in about 50% of attempts. The limited and inconsistent efficacy of the product has resulted in patient dissatisfaction and discontinuation, thus creating a chance to drive Viagra quitters or switchers, as well as new patients, to new, more effective, MED products. The demonstration of efficacy in a broader population of MED patients might also influence physicians to try an alternative product prior to Viagra. The delay in onset (~1hr) and the variability in onset of action from patient to patient is an additional complaint about Viagra. Product features of a selective D4 agonist such as a more rapid onset of action or more reproducible onset will have a positive influence on the market opportunity for MED therapies.
- Additional Indications: Use of a D4 dopamine receptor agon in other indications such as "relationship enhancement" (female sexual dysfunction and age-related decline in male sexual performance) offers an opportunity to both expand the potential market to include women and non-MED sufferers, and reduce the embarrassment of MED for patients. Additional research is required to identify meaningful endpoints in this expanded indication. Initial studies conducted by Pfizer showed that ViagraTM was not effective to treat female sexual dysfunction.

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Competitive Overview

The following tables summarize the key competitive activities in regard to marketed products and products in the development pipeline. To date there are no reports any other company targeting selective D4 agonists for the treatment of MED, although a number of companies do have activities in the dopamine receptor arena for other indications that could be re-focused to MED if they became aware of Abbott's insights into the D4 receptor.

A. Oral agents

Approach	Compound/Product	Company(ies)	Status
PDE5 inhibition	Sildenafil (Viagra TM)	Pfizer	Marketed
DA receptor	Apomorphine (Uprima TM)	TAP	NDA filing withdrawn
Adrenergic	Phenolamine (Vasomax TM)	Schering-Plough/Zonagen	NDA filing on hold (>1 year)
PDE5 inhibition	IC351 (Cialis TM)	ICOS-Lilly	Phase III
PDE5 inhibition	Vardenafil	Bayer	Phase II-III

B. Intranasal

Approach	Compound/Product	Company(ies)	Status
DA receptor	Nasal apomorphine	Nastech	Phase II

C. Intracavernosal agents

Approach	Compound/Product	Company(ies)	Status
EP receptor	PGE ₁ (Caverjet TM , Edex TM)	Pharmacia, Schwarz Pharma	Marketed
VIP receptor/ Adrenergic	VIP-phenolamine (Invicorp TM)	Senetek	Marketed outside US
K channels	PNU 83757	Pharmacia	Phase II

D. Intraurethral agents

Approach	Compound/Product	Company(ies)	Status
EP receptor	PGE ₁ (Muse TM)	Vivus, Abbott	Marketed

E. Topical

Approach	Compound/Product	Company(ies)	Status
EP receptor	PGE ₁ (Alprox-TD; Topiglan)	NexMed; MacroChem	Phase II and III

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MAR. 13. 2001 12:29PM

NO. 2199 P. 2/3

Brian J. Smith
Assistant Secretary and Divisional Vice President
Domestic Legal Operations
Abbott Laboratories
100 Abbott Park Road
Abbott Park, Illinois 60064

March 13, 2001

John Hancock Life Insurance Company
Investors Partner Life Insurance Company
John Hancock Variable Life Insurance Company
Attention: Stephen J. Blewitt
John Hancock Place
P.O. Box 111
Boston, MA 02117

Ladies and Gentlemen,

I have acted as counsel for Abbott Laboratories, an Illinois corporation (the "Company"), in connection with the Company's collaboration with John Hancock Life Insurance Company, a Massachusetts corporation, Investors Partner Life Insurance Company, a Massachusetts corporation, John Hancock Variable Life Insurance Company, a Delaware corporation (collectively, "John Hancock") pursuant to the Research Funding Agreement made as of March 13, 2001 (the "Research Funding Agreement"). Capitalized terms used herein without definition have the meanings assigned to them in the Research Funding Agreement.

In connection with the opinions expressed herein, I have made such examination of matters of law and of fact as I considered appropriate or advisable for purposes hereof. As to matters of fact material to the opinions expressed herein, I have relied upon certificates and statements of government officials and of officers of the Company. I have also examined originals or copies of such corporate documents or records of the Company as I have considered appropriate for the opinions expressed herein. I have assumed for the purposes of this opinion the genuineness of all signatures (other than those of individuals signing on behalf of the Company which are genuine), the legal capacity of natural persons, the authenticity of the documents submitted to me as originals, the conformity to the original documents of all documents submitted to me as certified, facsimile or photostatic copies, and the authenticity of the originals of such copies.

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MAR. 13. 2001 12:29PM

NO. 2199 P. 3/3

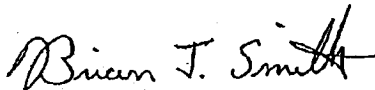
John Hancock Life Insurance Company
Investors Partner Life Insurance Company
John Hancock Variable Life Insurance Company
March 13, 2001
Page 2

Based upon the foregoing, and subject to the qualifications and limitations stated herein, I am of the opinion that: (i) the Company is duly organized, validly existing and in good standing in the State of Illinois; (ii) the Company has the requisite corporate power and authority to execute, deliver and perform the Research Funding Agreement; (iii) the Research Funding Agreement has been duly and validly authorized by the Company, and duly executed and delivered by an authorized officer of the Company and constitutes a valid and binding legal obligation of the Company enforceable against it in accordance with its terms; (iv) the performance of the Research Funding Agreement by the Company does not constitute a breach or violation of its organizational documents or any other agreement or understanding, written or oral, to which the Company is a party or any existing law, statute, rule or regulation by which the Company is bound; (v) no consents or approvals of any court or governmental authority is required on the part of the Company in connection with the execution, delivery, and performance of the Research Funding Agreement; (vi) there is no litigation pending, or to my knowledge threatened, which calls into question the validity of the Research Funding Agreement.

My opinion expressed above is limited to the law of the State of Illinois and the federal law of the United States, and I do not express any opinion herein concerning any other law.

The opinion set forth herein is rendered only to you and solely for your benefit in connection with the above described transactions. This opinion may not be relied upon by you for any other purpose, or relied upon by any other person for any purpose, without my prior written consent.

Very truly yours,



Blewitt 11/17/2006 Deposition Exhibit 21

D's Exhibit D_BD – Part 1

ORIGINAL FILED UNDER SEAL - DO NOT SCAN

UNITED STATES DISTRICT COURT
FOR THE
DISTRICT OF MASSACHUSETTS

JOHN HANCOCK LIFE INSURANCE
COMPANY, JOHN HANCOCK
VARIABLE LIFE INSURANCE
COMPANY, and INVESTORS
PARTNER LIFE INSURANCE
COMPANY,

Plaintiffs,

v.

ABBOTT LABORATORIES,

Defendant.

CIVIL ACTION NO. 03-12501-DPW

CONFIDENTIAL
SUBJECT TO PROTECTIVE ORDER
FILED UNDER SEAL

AFFIDAVIT OF STEPHEN J. BLEWITT

I, Stephen J. Blewitt, hereby state under oath that:

1. I am currently Vice President in the Bond and Corporate Finance Group at John Hancock Life Insurance Company ("Hancock") located in Boston, Massachusetts. I have been employed by Hancock since graduating from the University of Chicago in 1982.

2. Hancock is a company, duly formed and existing under the laws of the Commonwealth of Massachusetts that maintains its corporate headquarters in Boston, Suffolk County, Massachusetts. It is one of the nation's leading insurance companies, providing a broad array of insurance and investment products to retail and institutional customers, including public and private securities. Hancock's investments are intended, *inter alia*, to



ensure that the company generates a sufficiently stable stream of income to meet Hancock's payment obligations to its policy holders, shareholders, and investors.

3. John Hancock Variable Life Insurance Company ("JHVL") is an affiliated company of Hancock, duly formed and existing under the laws of the Commonwealth of Massachusetts, that also maintains its corporate headquarters in Boston, Suffolk County, Massachusetts. JHVL provides variable life insurance products that link life insurance coverage and an investment return to an underlying portfolio of investments chosen by the policyholder.

4. Investors Partner Life Insurance Company ("Investors") is a company, duly formed and existing under the laws of the State of Delaware, that maintains its corporate headquarters in Boston, Suffolk County, Massachusetts. Investors is a wholly-owned subsidiary of JHVL that sells various types of life insurance products. Hancock, JHVL and Investors are collectively referred to herein as "John Hancock".

5. In or about 1999, Abbott Laboratories ("Abbott") was actively searching for a way to share the financial burden associated with funding the development of new pharmaceutical compounds. Specifically, Abbott was interested in obtaining external funding so that it could pursue more potentially viable drug development opportunities than its projected internal funding would allow.

6. One of the external funding sources that Abbott considered in the 1999 time frame was John Hancock. Mr. Philip Deemer, who then was Director of Abbott's Corporate Licensing Department, and I previously had developed a working relationship. We discussed that, instead of providing funding to companies with which Abbott had working relationships,

John Hancock should instead provide funding directly to Abbott. I was receptive to the concept, and we began discussions regarding how such an investment might be structured.

7. The negotiations between John Hancock and Abbott concerning a direct investment by John Hancock moved slowly. Over time, we began to focus our discussions on an investment structure whereby John Hancock would invest approximately \$50 million per year over a four-year period to fund the development of approximately ten (10) pharmaceutical compounds in Abbott's current research and development portfolio. Under this proposed structure, Abbott would commit to contribute at least \$100 million per year of its own funds to the development of the compounds in the portfolio, and would agree to make milestone and royalty payments to John Hancock based upon the success of those compounds. The contemplated structure also provided that John Hancock's obligation to continue investing would cease if Abbott decided to reduce its own spending on the compounds below a certain minimum threshold.

8. In or about the spring of 2000, John Hancock and Abbott began earnest efforts to finalize a deal that would work for both parties. I worked with various people at Abbott to identify a mutually acceptable basket of drug compounds and royalty payment structure. All told, nearly forty (40) drafts of the proposed agreement were exchanged and reviewed by the parties and their attorneys over a seven-month period.

9. Early drafts of the "Research Funding Agreement" (the "Agreement") provided for a four-year "Program Term." In the fall of 2000, however, Abbott terminated development of one of the more promising compounds in the proposed "basket of compounds," which significantly altered the economics and attractiveness of the deal from

John Hancock's perspective. In an effort to compensate for the loss of that compound and keep the deal alive, the parties discussed in November 2000 the possibility of extending the Program Term to five or six years and making some payments contingent upon Abbott meeting certain regulatory milestones. The parties prepared revised drafts of the Agreement that expressly provided for a potential "Extension Period" to the Program Term. True and accurate copies of relevant excerpts from these drafts of the Agreement are annexed hereto. See Exhibit 1 (November 16, 2000 Draft of the Agreement); Exhibit 2 (November 27, 2000 Draft of the Agreement).

10. Abbott subsequently decided that it did not wish to extend the duration of the Agreement and offered to add an additional drug compound to the planned "basket of compounds" if John Hancock would agree to go back to the "original structure." John Hancock accepted Abbott's proposal, with the result that the draft deal documents were further revised in January 2001 to add a new compound, to reduce the length of the Program Term once again to four years, and to remove the operative provisions that permitted an "Extension Period" of the four-year Program Term. True and accurate copies of the relevant excerpts from this draft of the Agreement are annexed hereto as Exhibit 3 (January 24, 2001 Draft of the Agreement).

11. On March 9, 2001, John Hancock's counsel pointed out to Abbott the obsolete reference to an Extension Period in the definitional section of the drafts, noting in faxed comments to Abbott that "this term is no longer used," and proposing deletion. A true and accurate copy of this correspondence is annexed hereto as Exhibit 4 (March 9, 2001 Draft of

the Agreement). The reference to an Extension Period in the definitional section of the drafts was then deleted.

12. On March 13, 2001, the parties executed the final version of the Agreement. A true and accurate copy of the Agreement is annexed hereto as Exhibit 5.

13. The Program Term is defined in Section 1.44 of the final Agreement simply as "a period of four (4) consecutive Program Years." "Program Year," in turn, is defined as "a period of twelve (12) consecutive calendar months commencing on January 1 of each year, except that the first Program Year shall commence on the Execution Date [March 13, 2001] and end on December 31, 2001." Thus, the Program Term commenced on March 13, 2001 (*i.e.*, the first day of the first Program Year), and will end on December 31, 2004 (*i.e.*, the last day of the fourth Program Year). Unlike some prior drafts, there is no provision or mechanism in the final Agreement which permits Abbott to "extend" the Program Term. Moreover, the parties never agreed to any extension of the Program Term after execution of the Agreement.

14. The nine Program Compounds which are the subject of the Agreement were, at the time the Agreement was executed, in various stages of development and were aimed at treating a diverse range of medical conditions or diseases. Five of the Program Compounds were being developed to treat cancer (ABT 627; ABT 751; ABT 510; ABT 518 [a/k/a the "MMPI Program"]; and the "FTI Program"), while the other Program Compounds were aimed at treating pain (ABT 594), erectile dysfunction (the "ED Program"), or infection (ABT-492), or to serve as antibiotics (ABT-773). Six of the nine Program Compounds were in various stages of clinical trials at the time of execution, while three Program Compounds were

still in preclinical development. This final diverse grouping of compounds was selected based on forecasts which predicted how likely each compound was to obtain approval, when each compound was likely to obtain approval, and anticipated the commercial success each compound would acquire.

15. John Hancock agreed to contribute up to \$214 million towards Abbott's "Program Related Costs" in developing the nine Program Compounds over the four-year Program Term. See Exhibit 5, § 3.1. "Program Related Costs" are defined in the Agreement as including, *inter alia*, "all direct and indirect costs and expenses that are incurred by Abbott on the Research Program during a given Program Year and allocated in a manner consistent with Abbott's internal, pharmaceutical products division-wide allocation procedures." See Exhibit 5, § 1.43. Section 3.1 of the Agreement provides that John Hancock makes its Program Payment for each Program Year in arrears according to the following schedule:

<u>Payment Date</u>	<u>Amount</u>	<u>Program Year</u>
December 1, 2001	\$50,000,000	First
December 1, 2002	\$54,000,000	Second
December 1, 2003	\$58,000,000	Third
December 1, 2004	\$52,000,000	Fourth

See Exhibit 5, § 3.1.

16. Abbott, for its part, agreed to spend at least \$400 million of its own funds on Program Related Costs over the four-year Program Term, and to make certain milestone and royalty payments to John Hancock depending on the progress and commercial success of the Program Compounds. See Exhibit 5, §§ 1.3, 3.2. The combined total of John Hancock's maximum funding contribution and Abbott's minimum funding contribution (*i.e.*, \$614,000,000) is defined in the Agreement as the "Aggregate Spending Target." See Exhibit 5, § 1.3.

17. The Agreement contemplates that John Hancock will generate a return on the Program Payments that it makes through various milestone and royalty payments by Abbott that become due if and when Abbott achieves certain identified development milestones or commences commercial sales of any of the Program Compounds. See Exhibit 5, Art. 6-7. For example, Article 6 of the Agreement provides that Abbott will make milestone payments to John Hancock ranging from \$1,000,000 to \$20,000,000 when clinical trials for a Program Compound are initiated or a Program Compound receives regulatory approval. See Exhibit 5, Art. 6. Article 7 of the Agreement likewise entitles John Hancock to an 8.5% royalty on the first \$400 million in sales of products containing Program Compounds, and a smaller percentage royalty on sales above that amount. See Exhibit 5, Art. 7.

18. Section 3.4 of the Agreement further expressly provides that, if Abbott's Annual Research Plan ever fails to demonstrate Abbott's "intent and reasonable expectation to expend at least the Aggregate Spending Target on Program Related Costs over the four-year Program Term, then "John Hancock's obligation to make any remaining Program Payments for any succeeding Program Years . . . shall terminate." See Exhibit 5, § 3.4. While other provisions of the Agreement (including Section 3.3) permit Abbott to "carryover" its *actual* expenditures on Program Related Costs for a period of up to a year in certain circumstances, nothing in the Agreement permits Abbott to reduce its *planned* spending (*i.e.*, its intended and reasonably expected expenditures over the four-year Program Term to an amount less than \$614,000,000 without simultaneously terminating John Hancock's obligation to make any remaining Program Payments. See Exhibit 5, §§ 3.3, 3.4.

19. Section 3.3 of the Agreement (the "carry-over" provision) was proposed by Abbott and incorporated into the initial term sheets exchanged between the parties. The language proposed by Abbott in the term sheets was incorporated, without any material change, into the final Agreement.

20. The explicit distinction the Agreement recognizes between Abbott's "intended and reasonably expected" spending and its actual spending was, and is, of particular significance to John Hancock because, regardless of the commercial introduction dates of the various Program Compounds, John Hancock's contractual right to receive milestone and royalty payments from Abbott for any of the Program Compounds ends, under all circumstances, no later than December 31, 2015. Accordingly, it was important to John Hancock that Abbott have a strong incentive to try to develop and commercialize each of the Program Compounds as soon as possible in order to maximize John Hancock's return on its investment. I communicated these concerns to Abbott personnel during the negotiation of the Agreement and they indicated that they understood them.

21. The timing and total amount of Abbott's planned spending over the four-year Program Term also was of great importance to John Hancock. As of the date of the Agreement, Abbott represented to John Hancock that Abbott projected its spending to be at least \$1.2 billion on the development of the Program Compounds over the four-year Program Term. John Hancock regarded Abbott's continued willingness to spend its own money on development of Program Compounds over the Program Term as the best barometer of the likely commercial success of those compounds. John Hancock did not want to be obliged to invest additional money in development of the Program Compounds if Abbott's subsequent

ARPs revealed that the prospects for those compounds, in Abbott's view, had diminished significantly, *i.e.*, the ARPs showed that Abbott did not intend to spend Aggregate Spending Target over the four-year Program Term. Once again, I communicated these concerns to Abbott personnel during the negotiation of the Agreement and they indicated that they understood them. It is for this reason that the parties agreed in Section 3.4 that, if in any given year Abbott's planned spending on the Program Compounds over the entire four-year Program Term dropped below the \$614 million Aggregate Spending Target (*i.e.*, approximately one-half Abbott's original total spending plan), John Hancock's payment obligations – beyond what it already had spent and what it had committed to pay for the current year – automatically would “terminate.”

22. Abbott's first Annual Research Plan for the year 2001 (the “2001 ARP”) was appended to the Agreement as Exhibit 1.6.

23. Over the course of 2001, Abbott notified John Hancock that it was ceasing the development of two Program Compounds: ABT-594 and ABT-518. Abbott's decision to cease the development of ABT-594 and ABT-518 was reflected in Abbott's “preliminary” ARP for 2002 (the “2002 ARP”) sent to my attention at John Hancock in late 2001, a true and accurate copy of which is annexed hereto as Exhibit 6. Upon the receipt of Abbott's 2002 ARP and associated status report, John Hancock became obligated to make its First Program Payment (in arrears) in the amount of \$50 million for the Program Related Costs incurred by Abbott in 2001. John Hancock made the First Program Payment to Abbott on January 17, 2002. After making that payment, John Hancock had no obligations to fulfill under the Agreement until the next Program Payment was due, if at all, in late 2002.

24. In December 2002, Mr. Lyons sent to my attention Abbott's "preliminary" ARP for 2003 (the "2003 Preliminary ARP") and a 2002 Status Report, a true and accurate copy of which is annexed hereto as Exhibit 7. This was the only ARP received by John Hancock in 2002. The contents of the 2003 Preliminary ARP were deficient and did not actually fulfill Abbott's obligations under Sections 2.2 and 3.4 of the Agreement. Although the 2003 Preliminary ARP contained information regarding Abbott's actual spending on Program Related Costs in 2002 and Abbott's intended and reasonably expected spending for the year 2003, it contained no information whatsoever regarding Abbott's intended and reasonably expected spending for 2004, the last "year remaining in the Program Term," as required under Section 1.6 of the Agreement.

25. Upon the receipt of Abbott's 2003 Preliminary ARP (and the satisfaction of other conditions under the Agreement), John Hancock became obligated to make its Second Program Payment (in arrears) in the amount of \$54 million for the Program Related Costs incurred by Abbott in 2002. John Hancock made the Second Program Payment to Abbott in January, 2003. That Program Payment originally was due on December 1, 2002, *see* Exhibit 5, § 3.1, but was suspended by the express terms of section 3.1 due to Abbott's failure to provide the report required by section 2.5 of the Agreement until December 20, 2002. After making that payment, John Hancock had no obligations to fulfill under the Agreement until the next Program Payment was due, if at all, in late 2003.

26. Subsequently, I observed that Abbott's 2003 Preliminary ARP did not contain any information regarding Abbott's intended and reasonably expected spending for 2004, which was necessary in order to determine Abbott's total planned expenditures on Program

Related Costs over the four-year Program Term. In the course of a conference call on the status of the Research Program, Mr. Lyons informed me that, as of December 2002, Abbott's projected spending for 2004 was only \$125 million. This projected spending for 2004 indicated that Abbott's total spending through 2004 would be \$549.9 million, which was \$64.1 million less than the Aggregate Spending Target of \$614 million. In a subsequent conference call, I asked Mr. Lyons to send me a complete version of the 2003 ARP containing the missing data. In response to my request, Mr. Lyons sent me a letter enclosing a document styled "Portfolio Program and Development Cost Summaries for the Final 2003 Plan" (the "2003 Final Plan"), a true and accurate copy of which is annexed hereto as Exhibit 8.

27. The 2003 Final Plan and accompanying correspondence from Mr. Lyons established that Abbott had reduced its intended and reasonably expected spending on Program Related Costs over the entire four-year Program Term to \$512.6 million, which was less than half of Abbott's originally planned spending as indicated in its 2001 ARP and more than \$100 million *less than* the Aggregate Spending Target of \$614 million.

28. On October 10, 2003, I sent Mr. Lyons, as a courtesy, a letter informing him that Abbott's decision in 2002 to reduce its intended and reasonably expected spending on Program Related Costs over the four-year Program Term to an amount less than the Aggregate Spending Target, as reflected in its 2003 Preliminary ARP and 2003 Final Plan, automatically terminated John Hancock's obligation to make any additional Program Payments. See Plaintiffs' Termination Letter dated October 10, 2003, a true and accurate copy of which is annexed hereto as Exhibit 9.

29. On November 12, 2003, Mr. James Tyree, Abbott's Vice President of Global Licensing/New Business Development, sent to my attention a document he referred to as the preliminary Annual Research Plans for 2004 and 2005, along with the Program Status Report for 2003, a true and accurate copy of which is annexed hereto as Exhibit 10. That Annual Research Plan shows expenditures totaling \$503.7 million through the end of the four-year Program Term in 2004, which was still \$110.3 million less than the Aggregate Spending Target of \$614 million. On November 26, 2003, Abbott sent a letter also requesting that the 2003 Program Payment of \$58 million be paid on December 1, 2003. That payment was not made by John Hancock. Instead, John Hancock filed this action seeking a determination that its further payment obligations under the Agreement have terminated in accordance with the terms of the Agreement.

Signed under the pain and penalties of perjury this 21 day of September, 2004.

Stephen J. Blewitt
Stephen J. Blewitt

CERTIFICATE OF SERVICE

I hereby certify that a true copy of the above document was
served upon the attorney of record for each other party
by mail (by hand) on 9/21/04

RC Flonke

Blewitt 11/17/2006 Deposition Exhibit 22

D's Exhibit D_GE – Part 1

CHS Draft 10/4/0010/17/00 |

RESEARCH FUNDING AGREEMENT

by and between

ABBOTT LABORATORIES, INC.

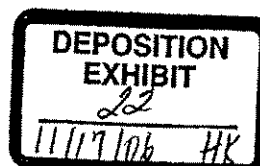
and

JOHN HANCOCK LIFE INSURANCE COMPANY

dated as of

October __, 2000

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CHS Draft 10/4/00 Abbott Draft 10/13/00

RESEARCH FUNDING AGREEMENT

This Research Funding Agreement is made as of _____, 2000, by and between Abbott Laboratories, ~~Inc.~~ ^{LLC}, an Illinois corporation ("~~Abbott~~", "Abbott"), with its principal offices at 100 Abbott Park Road, Abbott Park, Illinois 60064-6049, and John Hancock Life Insurance Company, a Massachusetts corporation ("~~John Hancock~~", "Hancock"), with its principal offices at 200 Clarendon Street, Boston, Massachusetts 02117.

WITNESSETH

WHEREAS, Abbott is a global healthcare company actively engaged in the research and development of human pharmaceutical products;

WHEREAS, Abbott is interested in obtaining additional funding to support such research and development activities with respect to certain pharmaceutical products which are under development; and

WHEREAS, John Hancock is interested in providing such additional funding in exchange for the right to receive future milestone and royalty payments from Abbott.

NOW, THEREFORE, in consideration of the foregoing and the mutual covenants and undertakings contained herein, the parties hereto agree as follows:

ARTICLE I
DEFINITIONS

In addition to the other terms defined elsewhere herein, the following terms shall have the following meanings when used in this Agreement (and any term defined in the singular shall have the same meaning when used in the plural and vice versa, unless stated otherwise):

1.1 "ABT-627" shall have the meaning given in Section 1.32.

~~1.1.2~~ "Affiliate" "Affiliate" shall mean, with respect to each party, any corporation or other form of business organization, which directly or indirectly owns, controls, is controlled by, or is under common control with, such party. An entity shall be regarded as being in control of another entity if the former entity has the direct or indirect power to order or cause the direction of the policies of the other entity whether (i) through the ownership of fifty percent (50%) or more in the United States, or thirty percent (30%) or more outside the United States, of the outstanding voting securities (or other ownership interest for a business organization other than a corporation) of that entity; or (ii) by contract, statute, regulation or otherwise.

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~~1.21.3~~ "Aggregate" Aggregate Carryover Amount"Amount" shall have the meaning given in Section 3.3.

~~1.31.4~~ "Aggregate" Aggregate Spending Target"Target" shall mean Six Hundred Twenty Million Dollars (\$620,000,000), such amount being the sum of the aggregate Program Payments to be made by John Hancock pursuant to Section 3.1 and the aggregate expenditures to be made by Abbott pursuant to Section 3.2.

~~1.41.5~~ "Annual" Annual Carryover Amount"Amount" shall have the meaning given in Section 3.3.

~~1.6~~ "Annual Minimum Spending Target" for each Program Year shall mean the sum of (i) the Program Payment of John Hancock for such Program Year as specified in Section 3.1 (without giving effect to any deferral or other change under Section 3.3), (ii) Fifty Million Dollars (\$50,000,000), and (iii) any Annual Carryover Amount for such Program Year pursuant to Section 3.3.

~~1.51.7~~ "Annual" Annual Research Plan"Plan" shall mean a reasonably and consistently detailed statement of Abbott's objectives, activities, timetable, FTE allocation and budget for its research and development activities related to the Program Compounds for every Program Year remaining in the Program Term. The Annual Research Plan for the first Program Year is attached as Exhibit 1.

~~1.6~~ "Annual Minimum Spending Target" for each Program Year shall mean the sum of (i) the Program Payment of John Hancock for such Program Year as specified in Section 3.1 (without giving effect to any deferral or other change under Section 3.3), (ii) Fifty Million Dollars (\$50,000,000), and (iii) any Annual Carryover Amount for such Program Year pursuant to Section 3.3.

~~1.71.8~~ "Bundled Product" "Bundled Product" shall have the meaning given in paragraph (b) of the definition of Net Sales.

~~1.81.9~~ "Combination Product" "Combination Product" shall mean any product containing one or more Program Compounds combined as a single pharmaceutical product with one or more other therapeutically active ingredients.

~~1.91.10~~ "Commercially" Commercially Reasonable Efforts"Efforts" [subject to discussion] shall mean efforts which are consistent with those normally used by other pharmaceutical companies with respect to other pharmaceutical products which are of comparable [potential] commercial value and market potential at a similar stage of development or product life, taking into account, without limitation, issues of safety and efficacy, product profile, proprietary status, the regulatory environment and the status of the product and other relevant scientific factors; ~~provided that, with respect to a particular Program Compound or Product, the existence of any other factors.~~
compound or product shall ~~not~~ be taken into account, including, without limitation, any compounds or products (i) in the marketplace or under development by Abbott or any other

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person, (ii) licensed (in-licensed or otherwise), purchased or acquired by Abbott or its Affiliates, (iii) acquired by Abbott or its Affiliates as a result of any merger or of sale of equity or assets and (iv) in existence, in the marketplace, under development or licensed (in-licensed or otherwise), purchased or acquired by any person that acquires Abbott or its Affiliates as a result of any merger or of sale of equity or assets (and, as a result in any case, shall not reduce or otherwise change the efforts required of Abbott hereunder).

~~1.101.11~~ "Confidential Information" "Confidential Information" shall have the meaning given in Section 10.2.

~~1.111.12~~ "Delivery System Product" "Delivery System Product" shall have the meaning given in the definition of Net Sales.

~~1.121.13~~ "Dollars" or "\$" "Dollars" or "\$" means United States dollars.

~~1.131.14~~ "Eisai Agreement" "Eisai Agreement" shall mean the [agreement] dated June 29, 2000 between Eisai Co. Ltd. and Abbott related to the Program Compound "E7010". "E7010".

~~1.141.15~~ "Execution Date" "Execution Date" shall mean the date set forth in the introductory paragraph to this Agreement.

~~1.151.16~~ "FDA" "FDA" shall mean the U.S. Food and Drug Administration or any successor entity thereto.

~~1.16~~ "FTE" shall mean the time and work output equivalent to one year of a full time employee who is proficient in the performance of all assigned duties and responsibilities.

~~1.17~~ "First Commercial Sale" "Sale" shall mean the first sale of a Product in a given country by Abbott, its Affiliates or Licensees to an unrelated third person after Regulatory Approval has been granted in such country.

~~1.18~~ "Intellectual Property" "Intellectual Property" shall have the meaning given in Section 12.2.

~~1.19~~ "International Territory" "International Territory" shall mean all areas of the world outside the U.S. Territory (including Puerto Rico and the U.S. Virgin Islands).

~~1.20~~ "Investigational New Drug Application" "Investigational New Drug Application" shall have the meaning given in Section 6.3.

~~1.21~~ "Licensee" "Licensee" shall mean any party directly licensed by Abbott or its Affiliates to distribute or sell Products pursuant to a written license agreement on arm's-length terms and conditions.

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1.22 ~~"Losses"~~^{"Losses"} shall mean any claims, demands, liabilities, costs, damages, judgments, settlements and other reasonable expenses (including attorneys' fees).

1.23 ~~"NDA"~~^{"NDA"} shall mean a New Drug Application filed with the FDA for the purpose of obtaining Regulatory Approval of a Product in the U.S. Territory.

1.24 ~~"Net Sales"~~^{"Net Sales"} shall mean:

- (a) the total gross sales of the Products (or, for purposes of clauses (b) and (c), the Bundled Products and Combination Products), in each case as set forth on the invoices for such sales by Abbott, its Affiliates and Licensees to ~~unrelated~~^{unaffiliated} third parties in any given period, ~~plus~~, if applicable, the fair market value of all properties and services received in consideration of a sale of Products, Bundled Products or Combination Products, as applicable, by Abbott, its Affiliates and Licensees to ~~unrelated~~^{unaffiliated} third parties during such period, ~~less~~ the following deductions directly paid or actually incurred by Abbott, its Affiliates or Licensees during such period with respect to the sale of the Products, Bundled Products or Combination Products, as applicable, to the extent included in the gross invoiced sales price therefor:
 - (i) discounts, credits, rebates, allowances, adjustments, rejections, recalls and returns;
 - (ii) price reductions or rebates, retroactive or otherwise, imposed by government authorities;
 - (iii) sales, excise, turnover, inventory, value-added and similar taxes assessed on the royalty-bearing sale of Products;
 - (iv) transportation, importation, insurance and other handling expenses directly chargeable to the royalty-bearing sale of Products;
 - (v) charge backs granted to unaffiliated drug wholesalers; and
 - (vi) the portion of management fees paid to unaffiliated group purchasing organizations that relate specifically to the royalty-bearing sale of Products.
- (b) With respect to a Product which is sold together with any other products and/or services in a country at a unit price, whether packaged together or separately (a ~~"Bundled Product"~~^{"Bundled Product"}), the Net Sales of such Bundled Product shall first be calculated in accordance with the definition of Net Sales under paragraph (a), and then the Net Sales of such Bundled Product shall be determined on a country-by-country basis as follows:

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- (i) multiply the Net Sales of such Bundled Product in such country by the fraction $A/(A+B)$ where A is the average selling price of such Product in such country when sold separately and B is the total of the average selling prices in such country of each such other product(s) and/or service(s) in such Bundled Product when sold separately; or
 - (ii) if (x) either the average selling price of such Product or the total of the average selling prices of each such other products and/or services in such Bundled Product in such country is not available as of such date or (y) such Product is not sold separately in such country, multiply the Net Sales of such Bundled Product in such country by a percentage determined by the mutual agreement of the Parties which represents the proportionate economic value in such country of such Product relative to the economic value in such country contributed by the other products and/or services in such Bundled Product.
- (c) With respect to a Combination Product, the Net Sales of such Combination Product shall first be calculated in accordance with the definition of Net Sales under paragraph (a), and then the Net Sales of such Combination Product shall be determined on a country-by-country basis as follows:
 - (i) multiply the Net Sales of such Combination Product in such country by the fraction $A/(A+B)$, where A is the total of the average selling prices of the Program Compounds in such Combination Product, when sold separately in such country and B is the total of the average selling prices of each other therapeutically active ingredient when sold alone as a pharmaceutical product in such country; or
 - (ii) if (x) either the average selling price of all Program Compounds in such Combination Product or the total of the average selling prices of each other therapeutically active ingredient in such Combination Product in such country is not available or (y) such Program Compounds are not sold separately in such country, multiply the Net Sales of such Combination Product by a percentage determined by mutual agreement of the Parties, which represents the proportionate economic value in such country of all Program Compounds in such Combination Product relative to the economic value in such country contributed by all other therapeutically active ingredients in such Combination Product.

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- (d) For purposes of this paragraph (d), a "Premium Delivery System" means any delivery system comprising device(s), equipment, instrumentation or other components (but not solely containers or packaging) designed to assist in the administration of a Product, such as the Abbott ADD-Vantage® System. With respect to a Product which is sold together with a Premium Delivery System (a "Delivery System Product") in a country at a unit price, the Net Sales of such Delivery System Product shall first be calculated in accordance with the definition of Net Sales under paragraph (a), and then the Net Sales of such Product shall be determined on a country-by-country basis as follows:
- (i) if the Product is sold separately without the Premium Delivery System in a country, reduce the Net Sales of such Delivery System Product in such country by the amount that the average selling price of the Delivery System Product in such country exceeds the average selling price of such Product as sold separately in such country; or
 - (ii) if the Product is not sold separately without the Premium Delivery System in such country, reduce Net Sales of such Delivery System Product by an amount, determined by mutual agreement of the Parties, which represents the proportionate economic value in such country added by the Premium Delivery System.
- (e) With respect to Endothelin Compound ABT-627 [define], if Endothelin Compound ABT-627 is developed and marketed by Abbott for one or more cancer indications and one or more non-cancer indications, Net Sales shall be based upon sales of Product only for the cancer indication(s). If the Product is sold with different dosage strengths for the cancer indications and non-cancer indications, Net Sales shall be calculated based on the sales of the dosage strength(s) which are approved by the FDA for the treatment of cancer. If any dosage strength is the same for one or more cancer indications and one or more non-cancer indications, the Parties shall mutually agree to a formula, based upon IMS [define] or other market research data, that allocates the sales of such dosage strength between the cancer indication(s), which would be included as part of Net Sales, and the non-cancer indication(s) which would be excluded from Net Sales.
- 1.25 "~~Neutral~~" "Neutral" shall have the meaning given in ~~Section 11.2~~ Exhibit 16.7.
- 1.26 "~~Parties~~" "Parties" shall mean Abbott and John Hancock.

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1.27 "~~Phase~~Phase I Clinical Trial"~~Trial~~ shall mean those clinical trials which utilize a limited number of human beings to preliminarily address safety and to determine what doses can be safely tolerated.

1.28 "~~Phase~~Phase II Clinical Trial"~~Trial~~ shall mean those controlled clinical trials, the primary objective of which is to ascertain additional data regarding the safety and tolerance of one of the Program Compounds and preliminary data regarding such Program Compound's efficacy.

1.29 "~~Phase~~Phase III Clinical Trial"~~Trial~~ shall mean one or a series of controlled pivotal studies of a specific Product by administration of such Product to human beings where the principal purpose of such trial is to provide confirmatory safety and efficacy data necessary to support the filing for Regulatory Approval of a Product.

1.30 "~~Premium~~Premium Delivery System"~~System~~ shall have the meaning given in paragraph (d) of the definition of Net Sales.

1.31 "~~Product~~Product" shall mean any product containing one or more of the Program Compounds as an active ingredient, alone or in combination with other active ingredients (including any Bundled Product and any Combination Product).

1.32 "~~Program Compounds~~Program Compounds" shall mean the preclinical, Phase I, Phase II, and Phase III compounds listed on Exhibit 1.32, as well as any ~~substitute~~back-up compounds added by Section 4.3, and any line extensions, any new formulations, all indications and any improvements, derivatives and modifications thereof; provided, however, that with respect to ~~Endothelin~~Compound ABT-627 (hereinafter, "Compound ABT-627"), it shall only be considered a Program Compound to the extent that it is used to treat cancer.

1.33 "~~Program Inventions~~Program Inventions" shall have the meaning given in Section 5.1.

1.34 "~~Program Payments~~Program Payments" shall have the meaning given in Section 3.1.

1.35 "~~Program Related Costs~~" shall mean ~~all direct [and indirect]~~Program Related Costs shall mean (i) all direct and indirect costs and expenses that are ~~spent~~incurred by Abbott on the Research Program during a given Program Year; (ii) any payments made by Abbott to John Hancock pursuant to Sections 6.1, 6.2 and 6.3(a) through (e); and (iii) the milestone and license fees paid by Abbott to Eisai Co. Ltd. with respect to the Program Compound "E7010" pursuant to the Eisai Agreement. In no event shall (a) any payments made by Abbott to John Hancock pursuant hereto or (b) any overhead or similar charges or expenses, to Section 6.3(f) constitute Program Related Costs. Exhibit 1.35 is an example of Program Related Costs for a Program Compound.

1.36 "~~Program Term~~Program Term" shall mean a period of four ~~(4)~~ consecutive(4) Program Years.

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1.37 ~~"Program Year"~~"Program Year" shall mean a period of twelve (12) consecutive calendar months, with the first Program Year commencing on _____, 2000 and each subsequent Program Year commencing on the anniversary of such date.

1.38 ~~"Quarterly"~~"Quarterly Reporting Period"~~"Period"~~ shall mean the calendar quarter with respect to the U.S. Territory and a fiscal quarter ending on the final day of February, May, August and November (as the case may be) for the International Territory; provided, however, that if Abbott adopts the calendar year as its fiscal year for the International Territory, then the Quarterly Reporting Period for the International Territory shall also be the calendar quarter.

1.39 ~~"Research Program"~~"Research Program" shall mean all of Abbott's, its Affiliates and Subcontractors' activities directed towards obtaining Regulatory Approval for the Products, including research, development, safety and efficacy studies, clinical trials, process development, formulation work, regulatory, quality, data collection and analysis and project management.

1.40 ~~"Regulatory Approval" shall mean: (i) with~~"Regulatory Approval" shall mean:
(i) with respect to the U.S. Territory, the receipt of approval from the FDA to market a Product in the U.S. Territory; and (ii) with (ii) with respect to any country in the International Territory, receipt of the governmental approvals required to market a Product in such country, including any pricing and reimbursement authorization required in such country.

1.41 ~~"Royalty Term"~~"Royalty Term" shall mean, with respect to each Product in each country, a period of ten (10) years from the date of First Commercial Sale of such Product in such country.

1.42 ~~"Subcontractor"~~"Subcontractor" shall have the meaning given in Section 2.4.

1.43 ~~"Territory"~~"Territory" shall mean both the U.S. Territory and the International Territory.

1.44 ~~"U.S. Territory"~~"U.S. Territory" shall mean the United States of America, excluding Puerto Rico and the U.S. Virgin Islands.

ARTICLE 2

ANNUAL RESEARCH PROGRAM

2.1 Program Term. The Research Program shall be conducted by Abbott during the Program Term, and beyond the Program Term until Abbott either abandons development in accordance with the terms hereof or receives Regulatory Approval for each Program Compound.

2.2 Research Plan. The Research Program shall be conducted by Abbott in each Program Year in accordance with the Annual Research Plan for such Program Year. The Annual Research Plan will be provided to John Hancock until Abbott either abandons development in accordance with the terms hereof or receives Regulatory Approval for each Program Compound

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in the U.S. Territory. The Annual Research Plan shall be prepared by Abbott and presented to John Hancock at least sixty (60) days prior to the start of each Program Year. The Annual Research Plan for the first Program Year is attached as Exhibit 1. Abbott may modify the Annual Research Plan from time to time in order to best meet the objectives of the Research Program. Any such modifications to the Annual Research Plan shall be promptly provided to John Hancock.

2.3 Conduct of Research. Abbott shall use Commercially Reasonable Efforts to conduct the Research Program in good scientific manner and using good laboratory practices, to achieve the objectives of the Research Program efficiently and expeditiously and to comply with all applicable laws and regulations. Notwithstanding anything in this Agreement to the contrary, Abbott does not represent, warrant or guarantee that the Research Program will be successful in whole or in part or result in the registration or commercialization of any pharmaceutical products or that any Products obtaining Regulatory Approval will be a commercial success.

2.4 Subcontracting Research. Abbott may subcontract or outsource to Affiliates or third persons (each, a "Subcontractor") any portion of the Annual Research Plan. Each non-affiliated Subcontractor shall enter into a confidentiality agreement with Abbott and agreements acknowledging Abbott's exclusive ownership of the Program Compounds and shall comply with the terms hereof and with all applicable laws and regulations, including good laboratory practices, with respect to its work on the Research Program. Abbott shall supervise and be responsible under this Agreement for the work of such Subcontractor on the Research Program and no subcontracting or outsourcing shall relieve Abbott of any of its obligations hereunder.

2.5 Research Reports and Records. Abbott shall on an annual basis [no later than the last day of each Program Year] [This report must be provided before John Hancock can be obligated under section 3 to make a subsequent Program Payment], provide John Hancock with a reasonably detailed report setting forth the status of the Research Program and all Program Related Costs expended by Abbott during such Program Year. Such report shall also contain such other information related thereto as John Hancock may reasonably request from time to time. Abbott shall, and shall cause each Subcontractor to, maintain complete and accurate records, in sufficient detail and in good scientific manner appropriate for patent and regulatory purposes and for purposes of demonstrating compliance with the terms hereof, that fully and properly reflect all work done, results achieved and Program Related Costs expended in performance of the Research Program. The books and records of Abbott and each Subcontractor related to the Research Program, including, without limitation, those related to the expenditure of Program Related Costs, shall be subject to copying, inspection and audit by (and at the expense of) John Hancock at any time and from time to time. Such audit shall occur upon reasonable notice and during normal business hours by an independent auditor selected by John Hancock and reasonably acceptable to Abbott. John Hancock and its independent auditor shall maintain such records and information of Abbott in confidence in accordance with Article 10 and shall not use such records or information except to the extent permitted by this Agreement, including any enforcement of the provisions hereof. In the event that such audit reveals any material breach of Abbott's responsibilities hereunder, Abbott shall (i) pay the reasonable fees and expenses charged

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by such auditor, and (ii) fully and promptly cure such breach and (iii) all documents reviewed in the audit will be copied and delivered to John Hancock at its request.

ARTICLE 3 RESEARCH FUNDING

3.1 John Hancock Program Payments. John Hancock shall make the following installment payments for the applicable Program Year to Abbott to help support the Research Program (the "Program Payments"): "Program Payments":

<u>Payment Date</u>	<u>Payment Amount</u>	<u>Program Year</u>
Execution Date	\$50,000,000	first
First Anniversary of Execution Date	\$55,000,000	second
Second Anniversary of Execution Date	\$55,000,000	third
Third Anniversary of Execution Date	\$60,000,000	fourth

Such funds shall be expended by Abbott on Program Related Costs and not for any other purpose.

3.2 Abbott Program Payments. Abbott shall spend on Program Related Costs: (i) ~~at (i) during each Program Year, at least the Annual Minimum Spending Target for and during each such Program Year and (ii) at (ii) at least the Aggregate Minimum Spending Target for and during the Program Term.~~ John Hancock's sole and exclusive remedies for Abbott's failure to fund the Research Program in accordance with this Section 3.2 (but not for any other breach of Abbott's other obligations) are set forth in Sections 3.3, 3.4 and 7.2.3.3 and 3.4.

3.3 Carryover Provisions. Abbott shall be permitted to change its funding obligations under Section 3.2 only as follows:

- (i) If in any Program Year Abbott spends on Program Related Costs, the full amount of the Program Payment provided by John Hancock for such Program Year, but does not spend the full amount of the Annual Minimum Spending Target for such Program Year (including any Annual Carryover Amounts from any prior Program Years), Abbott will spend the difference between its expenditure on Program Related Costs for such Program Year and the Annual Minimum Spending Target for such Program Year (the "Annual Carryover Amount") in the subsequent Program Year. John Hancock's obligation to make any Program Payment for such subsequent Program Year, if any, pursuant to Section 3.1, shall be deferred until the time that Abbott notifies John Hancock that it has spent the Annual Carryover Amount in such subsequent Program Year; and
- (ii) If in for each Program Year Abbott spends on Program Related Costs at least the Annual Minimum Spending Target, with or without utilizing the

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carryover permitted in paragraph (i), but does not expend the full amount of the Aggregate Spending Target during the Program Term, Abbott will expend the difference between its expenditures for Program Related Costs during the Program Term and the Aggregate Spending Target (the "Aggregate Carryover Amount") on Program Related Costs during the subsequent fiscal year commencing immediately after the end of the Program Term. If Abbott does not spend the Aggregate Carryover Amount on Program Related Costs during such subsequent fiscal year, Abbott will refund to John Hancock one-third of the Aggregate Carryover Amount that remains unspent by Abbott, within thirty (30) days of the end of such subsequent fiscal year.

3.4 Termination of John Hancock's Program Payment Obligation. If Abbott: ~~(i) abandons~~ (i) abandons development of all Program Compounds during the Program Term; (ii) ~~does~~ (ii) does not expend during any Program Year the full amount of the Program Payment provided ~~made~~ by John Hancock for such Program Year; (iii) ~~fails to timely deliver its Annual Research Plan for any year in accordance with Section 2.2 or does not reasonably demonstrate~~ in its Annual Research Plan, its intent and reasonable expectation to expend Program Related Costs during the next Program Year in excess of the Program Payment provided by John Hancock for such year; or (iv) ~~does~~ (iv) does not reasonably demonstrate, in its Annual Research Plan, its intent and reasonable expectation to expend Program Related Costs during the Research Term in excess of the Aggregate Spending Target, John Hancock's obligation to make any remaining Program Payments pursuant to Section 3.1 shall cease. In addition, in the case of either (i) or (ii) above, Abbott shall refund (not later than the 10th day following such event) to John Hancock the amount, if any, by which the Program Payment for such year ~~minus half made by John Hancock for such year, if any, exceeds one-half~~ of the Program Related Costs actually spent by Abbott during that Program Year.

3.5 Hancock Funding Obligation. John Hancock's entire obligation hereunder shall be limited to providing the Program Payments set forth in Section 3.1. Abbott shall be solely responsible for funding all Program Related Costs in excess of the Program Payments from John Hancock.

3.6 Calculation of Expenditures. ~~Notwithstanding anything else in this Agreement, for purposes of calculating whether Abbott has spent, or is projected to have spent, Program Related Costs in excess of (i) the Annual Minimum Spending Target for the first Program Year and (ii) the Aggregate Spending Target for the Program Term, Abbott shall be entitled to include within such calculations all cost and expenses incurred on or after [], 2000 up to the Execution Date, which would have otherwise qualified as Program Related Costs in the event that the period from [], 2000 to the Execution Date had been included within the first Program Year (and the Program Term). This extension of the first Program Year for the determination of whether the Annual Minimum Spending Target for the first Program Year and the Aggregate Spending Target are met, takes into consideration that Abbott was funding all research and development cost for the Program Compounds commencing [], 2000.~~

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ARTICLE 4
PRODUCT RESEARCH AND DEVELOPMENT

4.1 Commercially Reasonable Efforts. Abbott shall be solely responsible for the clinical development, government approval, manufacturing, marketing, sales and distribution of Products. Abbott will use, and will cause each of its Affiliates and Licensees to use, Commercially Reasonable Efforts to pursue the clinical development, government approval, manufacturing, marketing, sales and distribution of Products throughout the Territory. The obligations of Abbott, its Affiliates and Licensees with respect to any Product under this Article 4 are expressly conditioned upon the safety, efficacy and commercial feasibility of each Product, but no license, assignment or other transfer of rights by Abbott (by operation of Article 14 or otherwise) will modify or reduce Abbott's obligations hereunder. [It is the parties' expectation that under normal circumstances][addressed by proviso at end of sentence?] Abbott will file for Regulatory Approval with respect to each Product in Europe within two (2) years from the date of the NDA filing for such Product in the U.S. Territory and in Japan within five (5) years from such NDA filing date; provided, however, that these time frames may be extended or otherwise altered based upon unforeseen circumstances that legitimately impact such regulatory filings in such foreign jurisdictions.

4.2 Marketing and Sale Responsibility. Without limiting the generality of Section 4.1, within six (6) months of obtaining Regulatory Approval for a Product in a given country, Abbott, its Affiliates or Licensees shall commence to market and sell such Product in such country. Abbott's obligation to market and sell a Product shall not apply [Why doesn't "Commercially Reasonable Efforts" address all of this?] to a Product in any country if Abbott has not commenced or has ceased marketing and selling such Product in such country substantially/primarily on account of adverse business or financial conditions caused by the regulatory authorities or other governmental authorities of such country (including not commencing marketing and selling in a country where the regulatory authorities have price or reimbursement approval and the price or reimbursement approval [or that proposed by the regulatory authorities or government authorities] is unacceptable to Abbott) which causes the marketing and sale of such Product in such country to be contrary to the financial best interests of John Hancock and Abbott; provided, however, that Abbott, its Affiliates or Licensees shall commence or resume marketing and sale of such Product in such country as soon as reasonably practical after such adverse business or financial conditions cease to exist.

4.3 Alternative Compounds. ~~[subject to discussion]~~ In the event that Abbott

- (a) ~~divests or out-licenses a Program Compound (which shall mean a sale, license or other transfer by Abbott following which Abbott and its Affiliates no longer have the exclusive right in (i) North America or (ii) at least two-thirds (by population) of Japan and Western Europe (consisting of (the European Union)), to [develop and sell] any Product containing such Program Compound); or~~

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- (b) ~~fails or ceases to research, develop, market, distribute or sell any Program Compound or Product for any reason that is not clearly consistent with using its Commercially Reasonable Efforts; or~~
- (c) ~~fails or ceases to develop any Program Compound beyond a preclinical or Phase I Clinical Trial;~~

Abbott shall give John Hancock a choice among three (3) alternative compounds as a substitute for such Program Compound (and, in the case of subsection (a) above, John Hancock shall additionally have the alternative choice of retaining its rights hereunder with respect to such Program Compound); provided that John Hancock reasonably agrees that at least two (2) of the alternative compounds then have a similar market opportunity and are in a comparable stage of development or have a better development and risk profile than such Program Compound. Upon selection by John Hancock, such selected alternative compound shall thereafter be treated hereunder as a Program Compound (including applicability of the representations and warranties herein with respect thereto as of the date it is added to the Research Program), but such selection will not occur unless John Hancock notifies Abbott of its selection of one of the alternative compounds (or of retaining its rights with respect to the Program Compound) within thirty (30) days from the date that Abbott proposes the alternative compounds to John Hancock and provides John Hancock with information about such alternative compounds of the same scope as that provided to John Hancock with respect to the initial Program Compounds and such additional information as John Hancock may reasonably request. In addition, such thirty (30) day period shall be extendable by another forty-five (45) days by written notice to such effect from John Hancock to Abbott within such initial thirty (30) day period.

If, in the case of subsection (a) above, John Hancock elects to retain its rights hereunder with respect to a Program Compound that has been divested or out-licensed, Abbott shall cause the transferee thereof to acknowledge and agree to the terms of this Agreement as applied to such Program Compound pursuant to such agreements and other instruments as are reasonable acceptable to John Hancock.

In addition, whether or not John Hancock elects to retain its rights with respect to a Program Compound, in the event that Abbott divests or out-licenses such Program Compound under the circumstances described in subsection (a) above, any initial or lump sum payment received by Abbott or its Affiliates with respect thereto shall be added to and included in the Net Sales as of the date such payment is due and payable to Abbott.

4.4. Endothelin. With respect to Endothelin, if Abbott, its Affiliates or Subcontractors initiates a Phase III Clinical Trial for one or more non-cancer indications [within _____ years from the date of this Agreement], Abbott will provide notice thereof to John Hancock together with information similar to that which John Hancock received in connection with the Program Compounds hereunder. Abbott will provide additional information concerning Endothelin and such trial as reasonably requested by John Hancock. Abbott agrees to give John Hancock the option, exercisable in John Hancock's sole discretion, to provide approximately _____% of the additional research funding required with respect to Endothelin for all non-cancer indications (not to exceed \$ _____), on terms and conditions that will (i) provide a projected rate of

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return to John Hancock that is at least as good as the projected rate of return provided herein with respect to the Program Compounds as of the date hereof and (ii) be negotiated in good faith by the Parties. Unless John Hancock shall have notified Abbott of its exercise of such option, such option will expire [] months after John Hancock receives the information requested by it as described above. Failure of Program Compound to Progress. If a Program Compound fails to progress past Phase I Clinical Trial (i.e., does not enter a Phase II Clinical Trial) (a "Failed Program Compound"), and Abbott initiates the development of a back-up compound, including any in-licensed back-up compound in the same class of compounds with the same mechanism of action for the same indications as the Failed Program Compound, during the Program Term or any period immediately thereafter during which the Aggregate Carryover Amount is being spent, then such back-up compound shall be deemed a Program Compound. With respect to any Failed Program Compound for which Abbott does not initiate development of a back-up compound as set forth above, then Abbott shall have no further obligations to John Hancock with respect to such Failed Program Compound. With respect to any Program Compound which enters a Phase II Clinical Trial but which Abbott thereafter ceases the development of, John Hancock shall have no further rights with respect to such Program Compound or any other back-up compound or in-licensed back-up compound developed by Abbott.

4.4. Compound ABT-627. With respect to Compound ABT-627, if Abbott, its Affiliates or Subcontractors initiates a Phase [II] Clinical Trial for one or more non-cancer indications during the Program Term or any period immediately thereafter during which the Aggregate Carryover Amount is being spent, Abbott will provide notice thereof to John Hancock together with information similar to that which John Hancock received in connection with the Program Compounds hereunder. Abbott will provide additional information concerning Compound ABT-627 and such trial as reasonably requested by John Hancock. Abbott agrees to give John Hancock the option, exercisable in John Hancock's sole discretion, to provide approximately 33 1/3% of the additional research funding required with respect to Compound ABT-627 for all non-cancer indications. John Hancock shall have forty-five (45) days from Abbott's notice to notify Abbott of its interest. If John Hancock has not notified Abbott within such forty-five (45) day period, the option shall be deemed expired. If John Hancock participates in such funding, Net Sales of Products shall include Net Sales generated by sales of Compound ABT-627 for such additional indication(s) upon Abbott's receipt of FDA approval for such indication(s).

4.5. Arm's-Length. Abbott shall not research, develop, manufacture, market, sell, distribute, out-license or otherwise treat any Program Compounds or Products differently, as compared to any other Abbott compounds or products, on account of any of John Hancock's rights hereunder. Furthermore, all distribution agreements, licenses, out-licenses and other agreements relating to the research, development, manufacturing, marketing, sale, distribution, licensing, out-licensing or divestiture of and all other transactions involving any Program Compounds or Products to or with any third party (except to Abbott's Affiliates) shall be on arm's-length terms and conditions.

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ARTICLE 5
PROGRAM INVENTIONS

5.1 Ownership. All inventions, innovations, ideas, discoveries, technology, know-how, methods, data, applications and products (in each case whether or not patentable) arising from the Research Program or otherwise related to the Program Compounds (collectively, the "Program Program Inventions")Inventions") shall be exclusively owned by or assigned to Abbott and Abbott shall not divest or otherwise transfer any right, title or interest in or to any Program Inventions to any other person except in accordance with Sections 4.3 and 4.5, which would prevent or impair Abbott's ability to fulfill its obligations to John Hancock under this Agreement.

5.2 Patent Prosecution and Maintenance. Abbott will use Commercially Reasonable Efforts to obtain broad patent protection for the Program Inventions. Abbott shall be responsible for all costs and expenses and control all decisions related to filing for patent protection, including the preparation, filing (foreign and/or domestic), prosecution, issuance and maintenance of patent applications or patents covering Program Inventions.

5.3 Enforcement. Abbott shall have the sole right and authority to enforce the patents or any other rights arising from Program Inventions against any infringers. If Abbott initiates any action or lawsuit to enforce such patents or other rights, it shall be solely responsible for the cost and expense thereof. Abbott will promptly notify John Hancock at such time as it becomes aware of any infringement activities and of any such enforcement actions or lawsuit, and Abbott will provide information concerning them as reasonably requested by John Hancock. All moneys recovered upon the final judgment or settlement of any such action or lawsuit, less the out-of-pocket cost and expense thereof, shall be added to and included in the Net Sales (for the years in each Royalty Term with respect to which such action or lawsuit concerns), less the out-of-pocket cost and expense concerns); thereof, provided that if such recovered moneys represent something other than Net Sales by the infringer (e.g., lost profits or a royalty), Abbott agrees to allocate a portion of the recovered moneys to John Hancock so as to approximate the appropriate royalty on Net Sales by the infringer during each year of the Royalty Terms. [Unclear on the intent of this provision?]

ARTICLE 6
MILESTONE PAYMENTS TO JOHN HANCOCK

6.1 Closing Fee. Upon execution of this Agreement, Abbott shall pay _____ (\$ _____) to John Hancock. Any payment here will exceed \$20 million?

6.2 Management Fee. On _____ 2001, 2002, 2003 and 2004, Abbott shall pay to John Hancock a management fee, each of which shall be in the amount of Two Million Dollars (\$2,000,000).

6.3 Milestone Notification and Payments. Abbott shall promptly notify John Hancock of the occurrence any of the following events that give rise to Abbott's obligation to

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make a milestone payment. Except as hereinafter limited, Abbott shall pay the following milestone payments to John Hancock in the amounts and at the times set forth below with respect to each Program Compound:

- (a) One Million Dollars (\$1,000,000) shall be paid within thirty (30) days after the allowance by the FDA of the first Investigational New Drug Application [define] for such Program Compound;
- (b) Two Million Dollars (\$2,000,000) shall be paid within thirty (30) days after the initiation of the first Phase I Clinical Trial with such Program Compound;
- (c) Three Million Dollars (\$3,000,000) shall be paid within thirty (30) days after the initiation of the first Phase II Clinical Trial with such Program Compound;
- (d) Four Million Dollars (\$4,000,000) shall be paid within thirty (30) days after the initiation of the first Phase III Clinical Trial with such Program Compound;
- (e) Five Million Dollars (\$5,000,000) shall be paid within thirty (30) days after the filing of anthe first NDA with the FDA for such Program Compound; and
- (f) Ten Million Dollars (\$10,000,000) shall be paid within thirty (30) days after the first Regulatory Approval of such Program Compound in the U.S. Territory.

The aggregate of milestone payments under Section 6.3(a), (b), (c), (d), and (e) for all Program Compounds shall be limited to Twelve Million Dollars (\$12,000,000), and once such aggregate limit has been paid, no further payments shall be due and payable under Sections 6.3(a), (b), (c), (d) or (e). The aggregate of milestone payments under Section 6.3(f) for all Program Compounds shall be limited to Forty Million Dollars (\$40,000,000), and once such aggregate limit has been paid, no further payments shall be due and payable under Section 6.3(f). The aggregate of milestone payments under Sections 6.3(a), (b), (c), (d) and (e) for all Program Compounds shall be limited to Three Million Dollars (\$3,000,000) during the first Program Year and shall be limited to Six Million Dollars (\$6,000,000) during the second Program Year, and once such annual limit has been reached for these particular Program Years, no further payments shall be due under Sections 6.3(a), (b), (c), (d) and (e) for the remainder of such Program Year; provided that any amounts that would have been due to John Hancock but for such annual limits shall be paid in subsequent Program Years so long as the Program Compound to which it relates has not been abandoned, divested or out-licensed by Abbott. Further, the milestone payments set forth in Section 6.2 will not be made more than once with respect to any given Program Compound regardless of the number of such trials, filings or approvals that may be undertaken or granted with respect to such Program Compound, including, without limitation, multiple product forms of the same Program Compounds, additional active or inactive ingredients, indications,

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delivery modules and/or dosage strengths. Finally, a milestone payment shall only be made with respect to a milestone achieved after [____], 2000, the date of this Agreement. For instance, if a Program Compound is in Phase III Clinical Trials at the Effective Date on [____], 2000, of this Agreement, then no milestones shall ever be paid under Sections 6.3(a), (b), (c) and (d) for such Program Compound regardless of whether the Program Compound were ever to achieve such milestones as part of a different development program for instance for a new dosage strength or new indication. Exhibit 6.3 sets forth the current stage of clinical development for each Program Compound.

ARTICLE 7 ROYALTIES

7.1 Royalty Rates. Subject to the limitation set forth below, Abbott shall pay to John Hancock royalties equal to the following percentages calculated on a calendar year to calendar year basis on the aggregate Net Sales of all Products in the Territory:

<u>Royalty percentage</u>	<u>Calendar year Net Sales (in millions) of all Products in the Territory</u>
8% of those Net Sales	up to \$400
and then 4% of those Net Sales	in excess of \$400 up to \$1,000
and then 1% of those Net Sales	in excess of \$1,000 up to \$2,000
and then .5% of those Net Sales	in excess of \$2,000

7.2 Royalty Term. The obligation to make royalty payments on each Product shall be calculated on a country-by-country basis, shall commence for such Product upon the First Commercial Sale thereof in such country, and shall last for the duration of the Royalty Term in each given country for such Product. Notwithstanding anything to the contrary herein, the obligation to make royalty payments on the Products shall not begin until [____, 2002] [the commencement of the Third Program Year] (and with respect only to Net Sales occurring on or after such date) and shall cease at December 31, 2014; provided that (i) for each Annual Carryover Amount that exceeds \$____, the obligation to make royalty payments shall be extended by one additional year and (ii) if Abbott becomes obligated to pay an Aggregate Carryover Amount pursuant to Section 3.3(ii) in an aggregate amount in excess of \$____, the obligation to make royalty payments shall also be extended by one additional year.

ARTICLE 8 ROYALTY REPORTS AND ACCOUNTING

8.1 Reports, Exchange Rates. With respect to every Quarterly Reporting Period for which Abbott is obligated to pay a royalty hereunder, Abbott shall furnish to John Hancock a written report for such Quarterly Reporting Period within sixty (60) days of the end of such Quarterly Reporting Period [(that is, within sixty (60) days of each [March 31], [June 30], [September 30] and [December 31])] showing in reasonably specific detail:

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- (a) the total gross sales in each country for each Product sold by Abbott, its Affiliates and Licensees in the Territory and the detailed calculation of Net Sales from gross sales in each country for each Product;
- (b) the royalties payable in Dollars, if any, which shall have accrued hereunder;
- (c) the dates of the First Commercial Sale of the Product in any country in the Territory during such Quarterly Reporting Period;
- (d) the exchange rates used in determining the amount of Dollars.
- (e) [WITHHOLDING TAXES DELETED HERE - WHY?]

With respect to sales of Products invoiced in Dollars, the gross sales, Net Sales (including all adjustments and deductions permitted to be made hereunder in calculating the same), and royalties payable shall be expressed in Dollars. With respect to sales of Products invoiced in a currency other than Dollars, the gross sales, Net Sales and royalties payable shall be expressed in their Dollar equivalent, calculated [using the Inter Bank rate set forth in the International Report published by International Reports Inc. as Foreign Exchange Rates quoted in New York on the day nearest the last business day of] [or the weighted average exchange rate on each day during ?] the Quarterly Reporting Period. [The gross sales made outside the U.S. Territory during a fiscal quarter will be reported with the gross sales made in the U.S. Territory during the calendar quarter in which the last month of the fiscal quarter falls.]

8.2 Audits.

- (a) Upon the written request of John Hancock and, in the absence of any breach by Abbott hereunder, not more than once in each calendar year, Abbott shall permit John Hancock and an independent certified public accounting firm of nationally recognized standing, selected by John Hancock and reasonably acceptable to Abbott, at John Hancock's expense, to have access during normal business hours to such of the records of Abbott, its Affiliates and Licensees to verify the accuracy of the royalty reports and the amounts and calculation of any payments required hereunder for any year ending not more than thirty-six (36) months prior to the date of such request; provided that, if such access reveals that any additional royalties or other payments were owed during such period, John Hancock shall have access to all such records for any year.
- (b) If such accounting firm concludes that additional royalties or other payments were owed during such period, Abbott shall have the option to invoke the proceedings of Section 16.7 below or pay the additional royalties or other payments within thirty (30) days of the date John Hancock delivers to Abbott such accounting firm's written report so

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concluding. The reasonable fees and expenses charged by such accounting firm shall be paid by John Hancock; provided, however, if the audit discloses that the amounts payable by Abbott for any Quarterly Reporting Period are more than one hundred five percent (105%) of the royalties actually paid for such period, then Abbott shall pay the reasonable fees and expenses charged by such accounting firm and any related costs of enforcement.

- (c) Abbott shall include in each license granted by it pursuant to this Agreement a provision requiring the Licensee (including any Affiliates of Abbott) to make reports to Abbott, to keep and maintain records of Net Sales made pursuant to such license and to grant access to such records by John Hancock and its accounting firm or other auditor to the same extent required of Abbott under this Agreement.
- (d) ~~In the event that Abbott's document retention policy requires it to discard any documentation related to the Research Program, Program Compounds or Net Sales (which policy shall require documents to be retained for at least three (3) years), prior to discarding such documentation Abbott shall make it~~ All reports and payments not disputed as to correctness by John Hancock within three (3) years after receipt thereof shall thereafter conclusively be deemed correct for all purposes, and Abbott and its Affiliates and licensees shall be released from any liability or accountability with respect to such royalties available to John Hancock for John Hancock's direct retention or copying and payments.

8.3 Confidential Financial Information. John Hancock shall treat all information subject to review under this Article 8, and shall cause its accounting firm to agree to treat all such information, in accordance with the provisions of Article 10.

8.4 Accounting Principles. All accounting hereunder, including without limitation all determinations of gross sales, Net Sales (including all adjustments and deductions permitted to be made hereunder in calculating the same), Program Related Costs and all calculations underlying such determinations, shall be made in accordance with generally accepted accounting principles as in effect in the United States, consistently applied.

ARTICLE 9 PAYMENTS

9.1 Payment Terms. With respect to every Quarterly Reporting Period for which Abbott is obligated to pay a royalty hereunder, such royalties shall be due and payable within sixty (60) days of the end of such Quarterly Reporting Period [(that is, within sixty (60) days of each [March 31], [June 30], [September 30] and [December 31])]. Payment of royalties in whole or in part may be made in advance of such due date.

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9.2 Payment Method. All royalties and other payments by Abbott to John Hancock under this Agreement shall be made by bank wire transfer in immediately available funds in accordance with the instructions set forth on Exhibit 9.2 attached hereto or in accordance with such other instructions as John Hancock may give from time to time.

9.3. Withholding Taxes ~~Taxes~~ [TAX]. All amounts owing from Abbott to John Hancock under this Agreement shall be paid without deduction to account for any withholding taxes, value-added taxes or other taxes, levies or charges with respect to such amounts payable on behalf of Abbott, its Affiliates or Licensees and any taxes required to be withheld on behalf of Abbott, its Affiliates or Licensees in any country within the Territory.

9.4 Late Payments. Abbott shall pay interest to John Hancock on the aggregate amount of any payments by Abbott that are not paid on or before the date such payments are due under this Agreement, including, without limitation, any disputed payments or payments resulting from any audit, at a rate per annum equal to the lesser of (a) the prime rate of interest plus _____ basis points as reported by _____ bank in _____, from time to time (with any change in such reported rate being effective immediately for purposes hereof), or (b) the highest rate permitted by applicable law, calculated on the number of days such payments is delinquent until paid in full in cash. All such amounts shall be payable upon demand.

ARTICLE 10 CONFIDENTIALITY

10.1 Nondisclosure Obligations. Except as otherwise provided in this Article 10, during the term of the Agreement and for a period of ten (10) years thereafter, (a) John Hancock shall maintain in confidence in accordance with such procedures as are adopted by John Hancock to protect its own confidential information of ~~third parties delivered to it~~, and shall use only for purposes of this Agreement (including, without limitation, enforcement of the terms hereof), information and data related to the Program Compounds or Products; and (b) John Hancock shall also maintain in confidence in accordance with such policies, and use only for purposes of this Agreement, all information and data supplied by Abbott under this Agreement, which if disclosed in writing is marked "confidential"; "confidential", if disclosed orally is promptly thereafter summarized and confirmed in writing to the other party and marked "confidential"; "confidential", or if disclosed in some other form is marked "confidential"; "confidential."

10.2 Permitted Disclosures. For purposes of this Article 10, information and data described in clause (a) or (b) above shall be referred to as "Confidential Information"; "Confidential Information". John Hancock may disclose Confidential Information as required by applicable law, regulation or judicial process, provided that John Hancock shall, if legally permitted, give Abbott prompt written notice thereof. The obligation not to disclose or use Confidential Information shall not apply to any part of such Confidential Information that (i) ~~is~~ (i) is or becomes patented, published or otherwise part of the public domain other than by acts or omissions of John Hancock in contravention of this Agreement; or (ii) ~~is~~ (ii) is disclosed to John Hancock by a third party, provided such Confidential Information was not obtained on a

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confidential basis by such third party from Abbott, its Affiliates or Licensees; or (iii) prior to disclosure under the Agreement, was already in the possession of John Hancock, provided such Confidential Information was not obtained directly or indirectly from Abbott, its Affiliates or Licensees under an ongoing obligation of confidentiality; or (iv) ~~is~~(iv) is disclosed in a press release agreed to by both parties under Section 10.3 below.

10.3 Publicity Review. Without the prior written consent of the other party, neither party shall make any statement to the public regarding the execution and/or any other aspect of the subject matter of this Agreement or any work under the Research Program. John Hancock and Abbott shall not disclose any terms or conditions of this Agreement to any third party without the prior consent of the other party, except as set forth above in this Section 10.3 or as required by applicable law, regulation or court order.

The parties have agreed not to issue a press release announcing the execution of this Agreement.

ARTICLE 11 TERM AND TERMINATION

11.1 Expiration. Unless terminated earlier by agreement of the parties or pursuant to Sections 11.2 or 11.4 below, this Agreement shall expire upon satisfaction of Abbott's obligations to pay royalties and all other amounts under this Agreement.

11.2 Material Breach. It is the parties' express intent that consideration shall first and foremost be given to remedying any breach of this Agreement through the payment of monetary damages or such other legal or equitable remedies as shall be appropriate under the circumstances and that there shall only be a limited right to terminate this Agreement under the following circumstances as a matter of last resort. In the event that the Neutral-[define], in accordance with the procedures set forth in Section 16.7, has rendered a ruling that a party has breached this Agreement, which ruling specified the remedies imposed on such breaching party for such breach (the "Adverse Ruling"); "Adverse Ruling"), and the breaching party has failed to comply with the terms of the Adverse Ruling within the time period specified therein for compliance, or if such compliance cannot be fully achieved by such date, or if the breaching party has failed to commence compliance and/or has failed to use diligent efforts to achieve full compliance as soon after the Adverse Ruling as is reasonably possible, then the non-breaching party shall have the following rights and all other rights available to it under law:

- (a) where Abbott is the breaching party that failed to comply with the Adverse Ruling and where the basis for such breach is Abbott's failure to abide by a material obligation under this Agreement, John Hancock may, upon written notice to Abbott, terminate this Agreement; and
- (b) where John Hancock is the breaching party that failed to comply with the Adverse Ruling and where the basis for such breach is John Hancock's failure to abide by a material obligation under this Agreement, Abbott may, upon written notice to John Hancock, terminate this Agreement.

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11.3 Effect of Expiration or Termination.

(a) ~~Expiration.~~ Expiration or termination of this Agreement shall not relieve the parties of any obligation accruing prior to such expiration or termination. The provisions of Articles 10 through 12, 15 and 16 shall survive the expiration or termination of the Agreement.

~~[(b) Notwithstanding anything herein to the contrary, termination of this Agreement by Abbott for any reason shall not relieve Abbott of its obligations under Articles 2 through 9, except that, to the extent that John Hancock has not made all of the Program Payments required by Article 3, then all Net Sales determinations, milestone payments (pursuant to Article 6), Annual Minimum Spending Targets and the Aggregate Spending Target shall thereafter be reduced by the fraction obtained by dividing (i) the aggregate of the Program Payments actually made by John Hancock by (ii) \$220,000,000.]~~

~~11.4 Bankruptcy.~~ Either party shall have the right to terminate this Agreement by delivering sixty (60) days prior written notice to the other party in the event of the other party's bankruptcy (not to include reorganization) or insolvency, provided that applicable federal bankruptcy laws shall apply. ~~[Why?]~~

ARTICLE 12
WARRANTIES AND INDEMNITY

12.1 John Hancock Representations and Warranties. John Hancock represents and warrants to Abbott that:

- (a) The execution and delivery of this Agreement and the performance of the transactions contemplated hereby have been duly authorized by all appropriate John Hancock corporation action. This Agreement constitutes John Hancock's valid and binding legal obligation, enforceable against it in accordance with its terms.
- (b) The performance by John Hancock of any of the terms and conditions of this Agreement on its part to be performed does not and will not constitute a breach or violation of its organizational documents or any other material agreement or understanding, written or oral, to which it is a party or any law, statute, rule or regulation by which it is bound.
- (c) No consent, approval, license or authorization of, or designation, declaration or filing with, any court or governmental authority is or will be required on the part of John Hancock in connection with the execution, delivery and performance by John Hancock of this Agreement or any other agreements or instruments executed and delivered by John Hancock in

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connection herewith or therewith, including, without limitation, any filings pursuant to federal or state securities laws or pursuant to any federal or foreign anti-trust laws.

- (d) Neither John Hancock nor any person acting on its behalf (i) has taken or will take any action which would subject this Agreement and the consummation of the transactions contemplated hereby to the registration or qualification requirements of any foreign or domestic (federal or state) securities laws, (ii) has dealt with any broker, finder or other similar person in connection with the transactions contemplated by this Agreement or (iii) is under any obligation to pay any broker's fee, finder's fee or commission in connection with such transactions.

12.2 Abbott Representations and Warranties. Abbott represents and warrants to John Hancock that as of the Effective Date: [to be discussed - delivery of opinion of counsel with respect to certain of the following topics]

- (a) The execution and delivery of this Agreement and the performance of the transactions contemplated hereby have been duly authorized by all appropriate Abbott ~~corporation~~ Corporation action. This Agreement constitutes Abbott's valid and binding legal obligation, enforceable against it in accordance with its terms.
- (b) The performance by Abbott of any of the terms and conditions of this Agreement on its part to be performed does not and will not constitute a breach or violation of its organizational documents or any other agreement or understanding, written or oral, to which it is a party or any law, statute, rule or regulation by which it is bound.
- (c) [FDA hereunder?] No consent, approval, license or authorization of, or designation, declaration or filing with, any court or governmental authority is or will be required on the part of Abbott in connection with the execution, delivery and performance by Abbott of this Agreement or any other agreements or instruments executed and delivered by Abbott in connection herewith or therewith, including, without limitation, any filings pursuant to federal or state securities laws or pursuant to any federal or foreign anti-trust laws.
- (d) Set forth on Exhibit 12.2(d) is the full name, detailed description of the stage of development, and current status and scope of patent coverage, for each Program Compound. Also set forth on Exhibit 12.2(d), are the projected sales and projected peak sales per calendar year through 2014, detailed for each Program Compound.

description of projected milestones and dates thereof, and projected year of

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product launch, for each Program Compound. Such projections were prepared in good faith and with due care based on reasonable assumptions, and represent the reasonable estimate of Abbott as to the future performance of the Program Compounds based on information available as of the date of such projections and as of the date hereof, it being agreed that such projections do not constitute any warranty as to the future performance of the Program Compounds and that actual results may vary from projected results.

- (e) ~~Set(c) [Patent Department review pending]~~ Set forth on Exhibit 12.2(e) is a list and description of all material domestic and foreign patents, patent rights, patent applications and all patent applications that are in the process of being prepared that are owned by or registered in the name of Abbott, or of which Abbott is a licensor or licensee or in which Abbott has any right, ~~which are related to the Research Program or cover any of the Program Compounds.~~ Alt ~~To the knowledge of Abbott, all~~ of such patents and patent applications have been duly filed in or issued by the United States Patent and Trademark Office or the equivalent foreign patent office, as the case may be, and have been properly maintained and renewed in accordance with all applicable laws and regulations. To the knowledge of Abbott, Abbott owns or has a valid license to all Program Inventions, patents, patent applications, copyrights, manufacturing processes, formulae, trade secrets, proprietary rights and know how necessary or desirable with respect to the Program Compounds and the Research Program as heretofore conducted and as proposed to be conducted (collectively, the "Intellectual Property"). ~~"Intellectual Property").~~ Except as set forth in Exhibit 12.2(e), Abbott's use of the Intellectual Property does not require the consent of any other person and the Intellectual Property is owned exclusively by Abbott, free and clear of any liens or encumbrances of any other person. Except as set forth in Exhibit 12.2(e), Abbott has not received any communications alleging that, and no claim is pending or, to the knowledge of Abbott, threatened to the effect that, the operations of Abbott with respect to the Research Program or the Program Compounds infringe upon or conflict with (or will infringe or conflict with) the asserted rights of any other person under any domestic or foreign patent, trademark, service mark, copyright, trade secret, proprietary right or any other intellectual property right, and there is no basis known to Abbott for any such claim (whether or not pending or threatened). No right. Except as set forth in Exhibit 12.2(e), no claim is pending or, to the knowledge of Abbott, threatened to the effect that any of the Intellectual Property is invalid or unenforceable by Abbott, and there is no basis known to Abbott for any such claim (whether or not pending or threatened). To the knowledge of Abbott, all technical information developed by and belonging to Abbott which has not been patented or copyrighted has been kept confidential.

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- (f) ~~Except for the Eisai Agreement and customary employment and consulting agreements with Abbott's own employees or consultants, there are no outstanding options, licenses, or agreements of any kind relating to the Intellectual Property or any of the Program Compounds or the transactions contemplated by this Agreement.~~ Except pursuant to the Eisai Agreement, Abbott has not granted or assigned to any other person any right to use, manufacture, have manufactured, produce or sell any of the Program Compounds or Products, the right to sell the Program Compounds.
- (g) To the knowledge of Abbott and with respect to the Research Program and each of the Program Compounds, Abbott is not now, and in performing its obligations hereunder will not be, in any way making an unlawful or wrongful use of any confidential information, know-how, or trade secrets of any other person, including without limitation ~~any former employer or~~ limitation, any present or past employee of Abbott.
- (h) ~~Neither this Agreement, Agreement nor any Exhibit to this Agreement, nor any other agreement, document or written statement made by Abbott and furnished by Abbott to John Hancock or John Hancock's counsel in connection with the transactions contemplated hereby, contains any untrue statement of material fact or omits to state any material fact necessary to make the statements contained herein or therein not misleading. There is no fact known to Abbott as of the date of this Agreement that has not been disclosed herein or in any other agreement, document or written statement furnished by Abbott to John Hancock or its counsel in connection with the transactions contemplated hereby which materially adversely affects or could materially and adversely affect the prospects or condition Abbott reasonably believes has had or would have a material adverse affect on the current status (safety, efficacy, or commercial or other) scientific viability) of the Research Program or any of the Program Compounds.~~
- (i) Neither Abbott nor any person acting on its behalf (i) has taken or will take any action which would subject this Agreement and the consummation of the transactions contemplated hereby to the registration or qualification requirements of any foreign or domestic (federal or state) securities laws, (ii) has dealt with any broker, finder or other similar person in connection with the transactions contemplated by this Agreement or (iii) is under any obligation to pay any broker's fee, finder's fee or commission in connection with such transactions.
- (j) There is no action, proceeding or investigation pending or, to the knowledge of Abbott, threatened ~~on any basis therefor known to Abbott~~ which (i) questions the validity of this Agreement or any action taken or to be taken by Abbott pursuant thereto or (ii) which has resulted in, or could reasonably be expected to result in, a material adverse change in the

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prospects or condition (safety, efficacy, commercial scientific viability or other) of the Research Program or any of the Program Compounds.

(k) With respect to the Research Program and each of the Program Compounds, Abbott has (and in the future will have) obtained, to the extent permitted by law, from each of its employees and from each of the employees of its Affiliates and Subcontractors an agreement in customary form pursuant to which each such person shall have agreed that all title to the Program Inventions, Program Compounds and Products is and shall be held by Abbott.

(l) ~~Since _____, 2000, no condition, circumstance or fact has arisen nor has Abbott made any change in the conduct of the Research Program that, individually or in the aggregate, materially adversely affects or could materially and adversely affect the prospects or condition (safety, efficacy, commercial or other) of the Research Program or any of the Program Compounds.~~

(e) ~~No royalty or other payment made hereunder to John Hancock will be subject to any withholding or similar tax imposed by any government or taxing authority.~~

12.3 No Conflict. Abbott and John Hancock represent and warrant that this Agreement does not, and will not, conflict with any other right or obligation provided under any other agreement or obligation that Abbott or John Hancock has with or to any third party.

12.4 Compliance with Law. Abbott represents and warrants to John Hancock that it will comply with all applicable laws, regulations and guidelines in connection with its performance of its obligations and rights pursuant to this Agreement, including the regulations of the United States and any other relevant nation concerning any export or other transfer of technology, services or products.

[12.5 Certain Breaches. As mentioned in our memo, in the event of certain breaches, we feel that John Hancock should be entitled to certain remedies - to be discussed.]
discussed.] EACH PARTY TO THIS AGREEMENT AGREES THAT, EXCEPT FOR THE REPRESENTATIONS AND WARRANTIES CONTAINED IN THIS AGREEMENT, NEITHER PARTY MAKES ANY OTHER REPRESENTATIONS OR WARRANTIES, AND EACH HEREBY DISCLAIMS ANY OTHER REPRESENTATIONS OR WARRANTIES MADE BY ITSELF OR ANY OF ITS OFFICERS, DIRECTORS, EMPLOYEES, AGENTS, FINANCIAL AND LEGAL ADVISORS OR OTHER REPRESENTATIVES, WITH RESPECT TO THE EXECUTION AND DELIVERY OF THIS AGREEMENT OR THE TRANSACTIONS CONTEMPLATED BY THIS AGREEMENT, NOTWITHSTANDING THE DELIVERY OR DISCLOSURE TO THE OTHER OR THE OTHER'S REPRESENTATIVES OF ANY DOCUMENTATION OR OTHER INFORMATION WITH RESPECT TO ANY ONE OR MORE OF THE FOREGOING.

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12.6 Indemnification of John Hancock. Abbott shall indemnify and hold John Hancock and its Affiliates, agents, directors and employees harmless, and hereby forever releases and discharges John Hancock and its Affiliates, agents, directors and employees, from and against all Losses related to or arising out of, directly or indirectly, (a) any negligence, recklessness or intentional misconduct of Abbott or its Affiliates, agents, directors, employees, Subcontractors, licensees (including Licensees) or sublicensees in connection with the Research Program, Program Compounds or Products, or (b) any manufacture, use, storage, distribution or sale of the Program Compounds or Products by anyone, including without limitation all Losses related to any personal injury or death, or (c) any breach by Abbott its representations, warranties or obligations hereunder ~~or under any related agreement, document or instrument and/or enforcement of the terms hereof~~ or (d) the consummation of the transactions contemplated hereby, except, in each case, to the extent any such Losses are the result of any breach by John Hancock of its representations, warranties or obligations hereunder.

12.7 Procedure. If John Hancock or any of its Affiliates, agents, directors or employees (each, an "Indemnitee") intends to claim indemnification under this Article 12, it shall promptly notify Abbott (the "Indemnitor") of any Loss or action in respect of which the Indemnitee intends to claim such indemnification, and the Indemnitor shall have the right to participate in, and, to the extent the Indemnitor so desires, to assume the defense thereof with counsel selected by the Indemnitor; provided, however, that an Indemnitee shall have the right to retain its own counsel, with the fees and expenses of such counsel to be paid by the Indemnitor, if representation of such Indemnitee by the counsel retained by the Indemnitor would be inappropriate due to actual or potential differing interests between such Indemnitee and any other party represented by such counsel in such proceedings. The indemnity obligation in this Article 12 shall not apply to amounts paid in settlement of any loss, claim, damage, liability or action if such settlement is effected without the consent of the Indemnitor, which consent shall not be withheld unreasonably or delayed. The failure to deliver notice to the Indemnitor within a reasonable time after the commencement of any such action, if materially prejudicial to its ability to defend such action, shall relieve the Indemnitor of any liability to the Indemnitee under this Article 12 ~~only to the extent such liability arises from the tardiness or absence of such notice~~, but the omission so to deliver notice to the Indemnitor will not relieve it of any liability that it may have to any Indemnitee otherwise than under this Article 12. The Indemnitee shall cooperate fully with the Indemnitor and its legal representatives in the investigation of any action, claim or liability covered by indemnification under this Article 12, at the expense of the Indemnitor.

12.8 Insurance. Abbott shall at its expense maintain, through self-insurance or otherwise, product liability insurance with respect to the development, manufacture, sale and use of Products and Program Compounds in such amounts and on such terms as Abbott customarily maintains with respect to its other similar products ~~(and in any event on terms no less comprehensive and favorable than those Abbott currently maintains with respect to such other similar products)~~. Abbott shall maintain such insurance for so long as it continues to develop, manufacture or sell any Products or Program Compounds, and thereafter for so long as Abbott customarily currently maintains such insurance.

12.9 Survival. The representations and warranties set forth in this Agreement shall survive the Execution Date.

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ARTICLE 13
FORCE MAJEURE

Neither party shall be held liable or responsible to the other party nor be deemed to have defaulted under or breached this Agreement for failure or delay in fulfilling or performing any term of this Agreement when such failure or delay is caused by or results from causes beyond the reasonable control of the affected party including but not limited to fire, floods, embargoes, war, acts of war (whether war be declared or not), insurrections, riots, civil commotions, general strikes, lockouts or other labor disturbances, acts of God or acts, omission or delays in acting by any governmental authority.

ARTICLE 14
ASSIGNMENT

Except as expressly provided hereunder, this Agreement may not be assigned or otherwise transferred, nor may any right or obligations hereunder be assigned or transferred by either party without the consent of the other party; provided, however, that either party shall be obligated to assign this Agreement and its rights and obligations hereunder in connection with the transfer or sale of all or substantially all of its business pertaining to this Agreement, or in the event of its merger or consolidation or change in control or similar transaction and in such event such party shall cause its successor or transferee in such transaction to assume all of the obligations of such party. [Why is this necessary? What if 20 assignees?] Any permitted assignee shall assume all obligations of its assignor under this Agreement. Notwithstanding the foregoing, John Hancock shall have right to assign its right to payments without Abbott's consent ~~any of its rights~~, in whole or in part, hereunder (but not its obligations) to any other person and such other person shall be permitted to enjoy and exercise all of the rights of John Hancock assigned to it.

it; provided that if such assignee is located outside the United States, (i) John Hancock shall notify Abbott at least sixty (60) days in advance and (ii) such payment shall be subject to any applicable U.S. withholding and (iii) such assignee shall not be a company in the health care industry.

ARTICLE 15
SEVERABILITY

Each party hereby agrees that it does not intend its execution and delivery hereof or its performance hereunder to violate any public policy, statutory or common laws, rules, regulations, treaty or decision of any government agency or executive body thereof of any country or community or association of countries. If any term or provision of this Agreement is held to be invalid, illegal or unenforceable by a court or other governmental authority of competent jurisdiction, such invalidity, illegality or unenforceability shall not affect any other term or provision of this Agreement, which shall remain in full force and effect. The holding of a term

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or provision to be invalid, illegal or unenforceable in a jurisdiction shall not have any effect on the application of the term or provision in any other jurisdiction.

ARTICLE 16
MISCELLANEOUS

16.1 Notices. Any consent, notice or report required or permitted to be given or made under this Agreement by one of the parties hereto to the other shall be in writing, delivered personally or by facsimile (and promptly confirmed by personal delivery, U.S. first class mail or courier), U.S. first class mail or courier, postage prepared (where applicable), addressed to such other party at its address indicated below, or to such other address as the addressee shall have last furnished in writing to the addressor and (except as otherwise provided in this Agreement) shall be effective upon receipt by the addressee.

If to John Hancock: John Hancock Life Insurance Company
200 Clarendon Street, T-57
Boston, MA 02117
Attention: Bond & Corporate Finance Group
Fax: 617/572-1628

Telephone:
Fax: 617-572-1628

copy to: John Hancock Life Insurance Company
200 Clarendon Street, T-50
Boston, MA 02117
Attention: Investment Law Division
Fax: 617/572-9268 Telephone:

Fax: 617-572-9268

If to Abbott: Abbott Laboratories
Dept. 309, Bldg. AP30
200 Abbott Park Road
Abbott Park, IL 60064-3537
Attention: President, Pharmaceutical
Products Division

Fax: Telephone: 847-
938-6863
Fax: 847-938-5383

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copy to: General Counsel
Abbott Laboratories
Dept. 364, Bldg. AP6D
100 Abbott Park Road
Abbott Park, IL 60064-6020
Telephone: 847-937-8905
Fax: 847-938-6277

16.2 Applicable Law. The Agreement shall be governed by and construed in accordance with the internal laws of the State of Illinois. Abbott, to the extent that it may lawfully do so, hereby consents to service of process, and to be sued, in the Commonwealth of Massachusetts and consents to the exclusive jurisdiction of the courts of the Commonwealth of Massachusetts and the United States District Court for the District of Massachusetts, as well as to the jurisdiction of all courts to which an appeal may be taken from such courts, for the purpose of any suit, action or other proceeding arising out of any of its obligations hereunder or thereunder or with respect to the transactions contemplated hereby or thereby, and expressly waives any and all objections it may have as to venue in any such courts. Abbott further agrees that a summons and complaint commencing an action or proceeding in any of such courts shall be properly served and shall confer personal jurisdiction if served personally or by certified mail to it at its address for notices as provided in this Agreement or as otherwise provided under the laws of the Commonwealth of Massachusetts. THE PARTIES EACH IRREVOCABLY WAIVE ALL RIGHT TO A TRIAL BY JURY IN ANY SUIT, ACTION OR OTHER PROCEEDING INSTITUTED BY OR AGAINST IT IN RESPECT OF ITS OBLIGATIONS HEREUNDER OR THEREUNDER OR THE TRANSACTIONS CONTEMPLATED HEREBY OR THEREBY.

16.3 Entire Agreement. This Agreement contains the entire understanding of the parties with respect to the subject matter hereof. All express or implied agreements and understandings, either oral or written, with respect to the subject matter hereof heretofore made are expressly merged in and made a part of this Agreement. This Agreement may be amended, or any term hereof modified, only by a written instrument duly executed by both parties hereto.

16.4 Headings. The captions to the several Articles and Sections thereof are not a part of this Agreement, but are merely guides or labels to assist in locating and reading the several Articles and Sections hereof.

16.5 Independent Contractors. It is expressly agreed that John Hancock and Abbott shall be independent contractors and that the relationship between the two parties shall not constitute a partnership, joint venture or agency. Neither John Hancock nor Abbott shall have the authority to make any statements, representations or commitments of any kind, or to take any action, which shall be binding on the other, without the prior consent of the other party to do so.

16.6 Performance By Affiliates, Licensees and Subcontractors. The parties recognize that Abbott may carry out certain obligations under this Agreement through performance by its Affiliates, Licensees and Subcontractors (but in no event shall that relieve Abbott of any of its obligations hereunder). Abbott guarantees that the activities of its Affiliates, Licensees and Subcontractors under this Agreement shall comply with this Agreement.

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16.7 Alternative Dispute Resolution. The parties shall attempt to amicably resolve disputes arising between them regarding the validity, construction, enforceability or performance of the terms of this Agreement, and any differences or disputes in the interpretation of the rights, obligations, liabilities and/or remedies hereunder, which have been identified in a written notice from one party to the other, by good faith settlement discussions between the President of Abbott's Pharmaceutical Products Division and the Managing Director of John Hancock or his designee. The parties agree that any dispute that arises in connection with this Agreement, which cannot be amicably resolved by such representatives within thirty (30) days after the receipt of such written notice, shall be resolved by binding Alternative Dispute Resolution (~~"ADR"~~)("ADR") in the manner described in Exhibit 16.7~~[please provide]~~ attached hereto.

16.8 Waiver. The waiver by either party hereto of any right hereunder or the failure to perform or of a breach by the other party shall not be deemed a waiver of any other right hereunder or of any other breach or failure by said other party whether of a similar nature or otherwise.

16.9 Counterparts. This Agreement may be executed in two or more counterparts, each of which shall be deemed an original, but all of which together shall constitute one and the same instrument.

[the remainder of this page is intentionally blank]

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IN WITNESS WHEREOF, the parties have executed this Agreement as of the date first set forth above.

JOHN HANCOCK LIFE
INSURANCE COMPANY

ABBOTT LABORATORIES INC.

By: _____

By: _____

Name: _____

Name: _____

Title: _____

Title: _____

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EXHIBIT 1. __

ANNUAL RESEARCH PLAN - FIRST PROGRAM YEAR

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EXHIBIT 1. __

PROGRAM COMPOUNDS

ABT 980 - BPH Back-up (phase III)
ABT 627 - Prostate and other cancer (phase III)
ABT 773 - Oral/pediatric/IV (late phase II)
ABT 594 - Neurological/bone/acute pain (late phase II)
E7010 - Cancer (phase II)
ABT 518 - Cancer (phase I)
FTI - Cancer (late preclinical)
Urokinase - Cancer (preclinical)

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EXHIBIT 16.7

ALTERNATIVE DISPUTE RESOLUTION

The parties recognize that a bona fide dispute as to certain matters may arise from time to time during the term of this Agreement which relates to either party's rights and/or obligations. To have such a dispute resolved by this Alternative Dispute Resolution ("ADR") provision, a party first must send written notice of the dispute to the other party for attempted resolution by good faith negotiations between the Managing Director of John Hancock and the Senior Vice President, Pharmaceutical Products Division, of Abbott (or their equivalents) of the affected subsidiaries, divisions, or business units within thirty (30) days after such notice is received (all references to "days" in this ADR provision is to calendar days).

Any negotiations regarding a dispute shall be treated as settlement negotiations for purposes of the Federal Rules of Evidence and any similar state rules of evidence. Such negotiations shall not be admissible in any subsequent ADR hearing.

If the matter has not been resolved within thirty (30) days of the notice of dispute, or if the parties fail to meet within such thirty (30) days, either party may initiate an ADR proceeding as provided herein. The parties shall have the right to be represented by counsel in such a proceeding.

1. To begin an ADR proceeding, a party shall provide written notice to the other party of the issues to be resolved by ADR. Within fourteen (14) days after its receipt of such notice, the other party may, by written notice to the party initiating the ADR, add additional issues to be resolved within the same ADR.

2. Within twenty-one (21) days following receipt of the original ADR notice, the parties shall select a mutually acceptable neutral to preside in the resolution of any disputes in this ADR proceeding. If the parties are unable to agree on a mutually acceptable neutral within such period, the parties shall request the President of the Center for Public Resources ("CPR"), 366 Madison Avenue, New York, New York 10017 to select a neutral pursuant to the following procedures:

(a) The CPR shall submit to the parties a list of not less than five (5) candidates within fourteen (14) days after receipt of the request from the parties, along with a Curriculum Vitae for each candidate. No candidate shall be an employee, director, or shareholder of either party or any of their subsidiaries or affiliates.

(b) Such list shall include a statement of disclosure by each candidate of any circumstances likely to affect his or her impartiality.

(c) Each party shall number the candidates in order of preference (with the number one (1) signifying the greatest preference) and shall deliver the list to the CPR within seven (7) days following receipt of the list of candidates. If a party believes a conflict of interest exists regarding any of the candidates, that party shall provide a written explanation of the conflict to

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the CPR along with its list showing its order of preference for the candidates. Any party failing to return a list of preferences on time shall be deemed to have no order of preference.

(d) If the parties collectively have identified fewer than three (3) candidates deemed to have conflicts, the CPR immediately shall designate as the neutral the candidate for whom the parties collectively have indicated the greatest preference. If a tie should result between two candidates, the CPR may designate either candidate. If the parties collectively have identified three (3) or more candidates deemed to have conflicts, the CPR shall review the explanations regarding conflicts and, in its sole discretion, may either (i) immediately designate as the neutral the candidate for whom the parties collectively have indicated the greatest preference, or (ii) issue a new list of not less than five (5) candidates, in which case the procedures set forth in subparagraphs 2(a) - 2(d) shall be repeated.

3. No earlier than twenty-eight (28) days or later than fifty-six (56) days after selection, the neutral shall hold a hearing to resolve each of the issues identified by the parties. The ADR proceeding shall take place in _____, or at such other location agreed upon by the parties. The language of the ADR shall be English.

4. At least seven (7) days prior to the hearing, each party shall submit the following to the other party and the neutral:

(a) a copy of all exhibits on which such party intends to rely in any oral or written presentation to the neutral;

(b) a list of any witnesses such party intends to call at the hearing, and a short summary of the anticipated testimony of each witness;

(c) a proposed ruling on each issue to be resolved, together with a request for a specific damage award or other remedy for each issue. The proposed rulings and remedies shall not contain any recitation of the facts or any legal arguments and shall not exceed one (1) page per issue.

(d) a brief in support of such party's proposed rulings and remedies, provided that the brief shall not exceed twenty (20) pages. This page limitation shall apply regardless of the number of issues raised in the ADR proceeding.

Except as expressly set forth in subparagraphs 4(a) - 4(d), no discovery shall be required or permitted by any means, including depositions, interrogatories, requests for admissions, or production of documents.

5. The hearing shall be conducted on two (2) consecutive days and shall be governed by the following rules:

(a) Each party shall be entitled to five (5) hours of hearing time to present its case. The neutral shall determine whether each party has had the five (5) hours to which it is entitled.

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(b) Each party shall be entitled, but not required, to make an opening statement, to present regular and rebuttal testimony, documents or other evidence, to cross-examine witnesses, and to make a closing argument. Cross-examination of witnesses shall occur immediately after their direct testimony, and cross-examination time shall be charged against the party conducting the cross-examination.

(c) The party initiating the ADR shall begin the hearing and, if it chooses to make an opening statement, shall address not only issues it raised but also any issues raised by the responding party. The responding party, if it chooses to make an opening statement, also shall address all issues raised in the ADR. Thereafter, the presentation of regular and rebuttal testimony and documents, other evidence, and closing arguments shall proceed in the same sequence.

(d) Except when testifying, witnesses shall be excluded from the hearing until closing arguments.

(e) Settlement negotiations shall not be admissible under any circumstances. Affidavits prepared for purposes of the ADR hearing also shall not be admissible. As to all other matters, the neutral shall have sole discretion regarding the admissibility of any evidence.

6. Within seven (7) days following completion of the hearing, each party may submit to the other party and the neutral a post-hearing brief in support of its proposed rulings and remedies, provided that such brief shall not contain or discuss any new evidence and shall not exceed ten (10) pages. This page limitation shall apply regardless of the number of issues raised in the ADR proceeding.

7. The neutral shall rule on each disputed issue within fourteen (14) days following completion of the hearing. Such ruling shall adopt in its entirety the proposed ruling and remedy of one of the parties on each disputed issue but may adopt one party's proposed rulings and remedies on some issues and the other party's proposed rulings and remedies on other issues. The neutral shall not issue any written opinion or otherwise explain the basis of the ruling.

8. The neutral shall be paid a reasonable fee plus expenses. These fees and expenses, along with the reasonable legal fees and expenses of the prevailing party (including all expert witness fees and expenses), the fees and expenses of a court reporter, and any expenses for a hearing room, shall be paid as follows:

(a) If the neutral rules in favor of one party on all disputed issues in the ADR, the losing party shall pay 100% of such fees and expenses.

(b) If the neutral rules in favor of one party on some issues and the other party on other issues, the neutral shall issue with the rulings a written determination as to how such fees and expenses shall be allocated between the parties. The neutral shall allocate fees and expenses in a way that bears a reasonable relationship to the outcome of the ADR, with the party prevailing on more issues, or on issues of greater value or gravity, recovering a relatively larger share of its legal fees and expenses.

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9. The rulings of the neutral and the allocation of fees and expenses shall be binding, non-reviewable, and non-appealable, and may be entered as a final judgment in any court having jurisdiction.

10. Except as provided in paragraph 9 or as required by law, the existence of the dispute, any settlement negotiations, the ADR hearing, any submissions (including exhibits, testimony, proposed rulings, and briefs), and the rulings shall be deemed Confidential Information. The neutral shall have the authority to impose sanctions for unauthorized disclosure of Confidential Information.

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Blewitt 11/17/2006 Deposition Exhibit 23

D's Exhibit D_GF – Part 1

RESEARCH FUNDING AGREEMENT

by and between

ABBOTT LABORATORIES

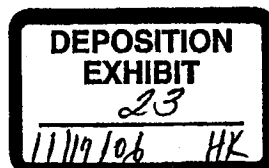
and

JOHN HANCOCK LIFE INSURANCE COMPANY

dated as of

~~February~~ March, 2001

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RESEARCH FUNDING AGREEMENT

This Research Funding Agreement is made as of February-March, 2001, by and between Abbott Laboratories, an Illinois corporation ("Abbott"), with its principal offices at 100 Abbott Park Road, Abbott Park, Illinois 60064-6049, and John Hancock Life Insurance Company, a Massachusetts corporation, and John Hancock Variable Life Insurance Company and [other Hancock purchasers?] ("John Hancock"), with its principal offices at 200 Clarendon Street, Boston, Massachusetts 02117.

WITNESSETH

WHEREAS, Abbott is a global healthcare company actively engaged in the research and development of human pharmaceutical products;

WHEREAS, Abbott is interested in obtaining additional funding to support such research and development activities with respect to certain pharmaceutical products which are under development; and

WHEREAS, John Hancock is interested in providing such additional funding in exchange for the right to receive future milestone and royalty payments from Abbott.

NOW, THEREFORE, in consideration of the foregoing and the mutual covenants and undertakings contained herein, the parties hereto agree as follows:

ARTICLE I
DEFINITIONS

In addition to the other terms defined elsewhere herein, the following terms shall have the following meanings when used in this Agreement (and any term defined in the singular shall have the same meaning when used in the plural and vice versa, unless stated otherwise):

1.1 "Affiliate" shall mean, with respect to each party, any corporation or other form of business organization, which directly or indirectly owns, controls, is controlled by, or is under common control with, such party. An entity shall be regarded as being in control of another entity if the former entity has the direct or indirect power to order or cause the direction of the policies of the other entity whether (i) through the ownership of more than fifty percent (50%) in the United States, or thirty percent (30%) or more outside the United States, of the outstanding voting securities (or other ownership interest for a business organization other than a corporation) of that entity; or (ii) by contract, statute, regulation or otherwise.

1.2 "Aggregate Carryover Amount" shall have the meaning given in Section 3.3.

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1.3 "Aggregate Spending Target" shall mean Six Hundred Eighteen Million Dollars (\$618,000,000).

1.4 "Annual Carryover Amount" shall have the meaning given in Section 3.3.

1.5 "Annual Minimum Spending Target" for each Program Year, shall mean the sum of (i) the Program Payment of John Hancock for such Program Year as specified in Section 3.1, (ii) Fifty Million Dollars (\$50,000,000), and (iii) any Annual Carryover Amount for the prior Program Year pursuant to Section 3.3. With respect to the fifth Program Year, the "Annual Minimum Spending Target" shall mean the Annual Carryover Amount for the prior Program Year pursuant to Section 3.3.

1.6 "Annual Research Plan" shall mean, for the Program Years in the Program Term, a reasonably and consistently detailed statement of the objectives, activities, timetable and budget for the Research Program for every Program Year remaining in the Program Term, it being understood that less detail shall be required for Program Years that are not the current Program Year. The first Annual Research Plan is attached as Exhibit 1.6. "Annual Research Plan" shall mean, for those years occurring after the expiration of the Program Term, a reasonably and consistently detailed statement of the objectives, activities, timetable and budget for the Research Program for such year only.

1.7 "Bundled Product" shall have the meaning given in paragraph (b) of the definition of Net Sales.

1.8 "Ceased Program" shall mean at least one year has elapsed since Abbott ceased its directed efforts with respect to the applicable Preclinical Program (FTI Program, ED Program or MMPI Program), meaning that Abbott has eliminated the funding for the established research program identified by a core group of researchers dedicated to the applicable Preclinical Program. The continued existence of a researcher separate and apart from such core group shall not affect the determination that a Preclinical Program has ceased.

1.9 "Combination Product" shall mean any product containing one or more Program Compounds combined as a single pharmaceutical product with one or more other therapeutically active ingredients.

1.10 "Commercially Reasonable Efforts" shall mean efforts which are consistent with those normally used by other pharmaceutical companies with respect to other pharmaceutical compounds or products which are of comparable potential commercial value and market potential at a similar stage of development or product life, taking into account, without limitation, issues of safety and efficacy, compound or product profile, proprietary status, the regulatory environment and the status of the compound or product and other relevant scientific factors.

1.11 "Compound Reports" shall have the meaning given in Section 12.2(i).

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- 1.12 "Confidential Information" shall have the meaning given in Section 10.2.
- 1.13 "Delivery System Product" shall have the meaning given in paragraph (d) of the definition of Net Sales.
- 1.14 "Dollars" or "\$" shall mean United States dollars.
- 1.15 "ED Program" shall mean all of Abbott's discovery efforts to identify compounds (including the identification of pre-clinical and development compounds owned by third parties) which modulate dopamine receptors for the purpose of treating erectile dysfunction.
- 1.16 "Eisai Agreement" shall mean the License Agreement dated June 29, 2000 between Eisai Co., Ltd. and Abbott related to the Program Compound known as ABT-751.
- 1.17 "Eisai Territory" shall mean the countries listed on Exhibit 1.17 hereto.
- 1.18 "Execution Date" shall mean the date set forth in the introductory paragraph to this Agreement.
- 1.19 "Extension Period" shall have the meaning given in Section 3.1.
- 1.20 "FDA" shall mean the U.S. Food and Drug Administration or any successor entity thereto.
- 1.21 "First Commercial Sale" shall mean the first sale of a Product in a given country by Abbott, its Affiliates or Licensees to an unaffiliated third person after Regulatory Approval has been granted in such country.
- 1.22 "FTI Program" shall mean all of Abbott's discovery efforts to identify compounds (including the identification of pre-clinical and development compounds owned by third parties) which act as farnesyl transferase inhibitors for the purpose of treating cancer.
- 1.23 "In-License Agreements" shall mean the Eisai Agreement, the Wakunaga Agreement and the Taisho Agreement.
- 1.24 "International Territory" shall mean all areas of the world outside the U.S. Territory.
- 1.25 "Investigational New Drug Application" shall mean an investigational new drug application filed with the FDA in order to commence human clinical testing of a drug in the United States.

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1.26 "Licensee" shall mean any party licensed or otherwise authorized in writing by Abbott, its Affiliates or its licensees to market, distribute or sell Products and from whom Abbott receives a royalty or similar other payment based upon sales of Products by such party, its affiliates or its licensees (it being understood that a party that is a merely a distributor, wholesaler or similar reseller of Products is not a Licensee hereunder). In no case shall Eisai Co., Ltd. or Taisho Pharmaceutical Co., Ltd. be considered Licensees under the terms of the Eisai Agreement or Taisho Co-Development Agreement with respect to the Eisai Territory or Japan, respectively.

1.27 "Losses" shall mean any claims, demands, liabilities, costs, damages, judgments, settlements and other reasonable expenses (including attorneys' fees).

1.28 "Milestone Payment" shall have the meaning given in Section 6.3.

1.29 "MMPI Program" shall mean all of Abbott's discovery efforts to identify compounds (including the identification of pre-clinical and development compounds owned by third parties) that inhibit matrix metalloproteinase and treat cancer by (i) blocking invasion into adjacent tissue, blood vessels or lymphatics or (ii) inhibiting angiogenesis.

1.30 "NDA" shall mean a New Drug Application (as defined by the FDA) filed with the FDA for the purpose of obtaining Regulatory Approval of a Product in the U.S. Territory.

1.31 "Net Sales" shall mean:

- (a) the total gross sales of the Products (or, for purposes of clauses (b) and (c), the Bundled Products and Combination Products), in each case as set forth on the invoices for such sales by Abbott, its Affiliates and Licensees to unaffiliated third parties in any given period, plus, if applicable, the fair market value of all properties and services received in consideration of a sale of the Products (or, for purposes of clauses (b) and (c), the Bundled Products and Combination Products) by Abbott, its Affiliates and Licensees to unaffiliated third parties during such period, less the following deductions directly paid or actually incurred by Abbott, its Affiliates or Licensees during such period with respect to the sale of the Products (or, for purposes of clauses (b) and (c), the Bundled Products and Combination Products) to the extent included in the gross invoiced sales price therefor:
 - (i) discounts, credits, rebates, allowances, adjustments, rejections, recalls and returns;
 - (ii) price reductions or rebates, retroactive or otherwise, imposed by government authorities;

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- (iii) sales, excise, turnover, inventory, value-added and similar taxes assessed on the royalty-bearing sale of Products;
 - (iv) transportation, importation, insurance and other handling expenses directly chargeable to the royalty-bearing sale of Products;
 - (v) charge backs granted to unaffiliated drug wholesalers; and
 - (vi) the portion of management fees paid to unaffiliated group purchasing organizations that relate specifically to the royalty-bearing sale of Products.
- (b) With respect to a Product which is sold together with any other products and/or services in a country at a unit price, whether packaged together or separately (a "Bundled Product"), the Net Sales of such Bundled Product shall first be calculated in accordance with the definition of Net Sales under paragraph (a), and then the Net Sales of such Bundled Product shall be determined on a country-by-country basis as follows:
- (i) multiply the Net Sales of such Bundled Product in such country by the fraction $A/(A+B)$ where A is the average selling price of such Product in such country when sold separately and B is the total of the average selling prices in such country of each such other product(s) and/or service(s) in such Bundled Product when sold separately; or
 - (ii) if (x) either the average selling price of such Product or the total of the average selling prices of each such other products and/or services in such Bundled Product in such country is not available as of such date or (y) such Product is not sold separately in such country, multiply the Net Sales of such Bundled Product in such country by a percentage determined by the mutual agreement of the Parties which represents the proportionate economic value in such country of such Product relative to the economic value in such country contributed by the other products and/or services in such Bundled Product.
- (c) With respect to a Combination Product, the Net Sales of such Combination Product shall first be calculated in accordance with the definition of Net Sales under paragraph (a), and then the Net Sales of such Combination Product shall be determined on a country-by-country basis as follows:

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- (i) multiply the Net Sales of such Combination Product in such country by the fraction $A/(A+B)$, where A is the total of the average selling prices of the Program Compounds in such Combination Product, when sold separately in such country and B is the total of the average selling prices of each other therapeutically active ingredient when sold alone as a pharmaceutical product in such country; or
 - (ii) if (x) either the average selling price of all Program Compounds in such Combination Product or the total of the average selling prices of each other therapeutically active ingredient in such Combination Product in such country is not available or (y) such Program Compounds are not sold separately in such country, multiply the Net Sales of such Combination Product by a percentage determined by mutual agreement of the Parties, which represents the proportionate economic value in such country of all Program Compounds in such Combination Product relative to the economic value in such country contributed by all other therapeutically active ingredients in such Combination Product.
- (d) For purposes of this paragraph (d), a "Premium Delivery System" means any delivery system comprising device(s), equipment, instrumentation or other non-ingestible components (but not solely containers or packaging) designed to assist in the administration of a Product, such as the Abbott ADD-Vantage® System. With respect to a Product which is sold together with a Premium Delivery System (a "Delivery System Product") in a country at a unit price, the Net Sales of such Delivery System Product shall first be calculated in accordance with the definition of Net Sales under paragraph (a), and then the Net Sales of such Product shall be determined on a country-by-country basis as follows:
- (i) if the Product is sold separately without the Premium Delivery System in a country, reduce the Net Sales of such Delivery System Product in such country by the amount that the average selling price of the Delivery System Product in such country exceeds the average selling price of such Product as sold separately in such country; or
 - (ii) if the Product is not sold separately without the Premium Delivery System in such country, reduce Net Sales of such Delivery System Product by an amount, determined by mutual agreement of the Parties, which represents the proportionate economic value in such country added by the Premium Delivery System.

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- (e) Net Sales shall not include any sales of Products containing one Program Compound (and no other Program Compound) known as (i) ABT-751 by Eisai Co. Ltd., its affiliates or licensees in the Eisai Territory or (ii) ABT-773 by Taisho Pharmaceutical Co., Ltd., its affiliates or licensees in Japan. Notwithstanding the foregoing sentence, Net Sales shall include in all instances sales by such parties of such products that are outside such territories, respectively.

1.32 "Parties" shall mean Abbott and John Hancock.

1.33 "Patents" shall have the meaning set forth in Section 12.2(e).

1.34 "Phase I Clinical Trial" shall mean a clinical trial of a Program Compound which utilizes a limited number of human beings preliminarily to address safety and to determine what doses can be safely tolerated.

1.35 "Phase II Clinical Trial" shall mean a controlled clinical trial, the primary objective of which is to ascertain additional data regarding the safety and tolerance of one of the Program Compounds and preliminary data regarding such Program Compound's efficacy.

1.36 "Phase III Clinical Trial" shall mean one or a series of controlled pivotal studies of a specific Program Compound by administration of such Program Compound to human beings where the principal purpose of such trial is to provide confirmatory safety and efficacy data necessary to support the filing for Regulatory Approval of a Product.

1.37 "Preclinical Programs" shall mean the following preclinical and clinical programs with potential backup compounds in accordance with Section 4.3(a): the FTI Program, the ED Program and the MMPI Program.

1.38 "Premium Delivery System" shall have the meaning given in paragraph (d) of the definition of Net Sales.

1.39 "Product" shall mean any product containing one or more of the Program Compounds as an active ingredient, alone or in combination with other active ingredients (including any Bundled Product and any Combination Product).

1.40 "Program Compounds" shall mean (i) the compounds listed on Exhibit 1.40; (ii) the first compound (the selection of which shall be consistent with Abbott using Commercially Reasonable Efforts) from each of the Preclinical Programs to enter Phase I Clinical Trial; (iii) any compounds or products substituted or added by Section 4.3; (iv) all line extensions and formulations of the foregoing; and (v) all analogs, isomers, improvements, derivatives and modifications of the foregoing unless such analog, isomer, improvement, derivative or modification would be considered a new chemical entity and required by the FDA to reenter

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Phase I Clinical Trial. A compound or product shall be considered a Program Compound regardless of the indication for which it is used.

1.41 "Program Inventions" shall have the meaning given in Section 5.1.

1.42 "Program Payments" shall have the meaning given in Section 3.1.

1.43 "Program Related Costs" shall mean (i) all direct and indirect costs and expenses that are incurred by Abbott on the Research Program during a given Program Year, and allocated in a manner consistent with Abbott's internal, pharmaceutical products division-wide allocation procedures; and (ii) the milestone and license fees paid during a given Program Year or during any extension period of the Program Term by Abbott to (a) Eisai Co. Ltd. (not to exceed Eighteen Million Dollars (\$18,000,000) in the aggregate with respect to the Program Compound known as ABT-751 pursuant to the Eisai Agreement) and (b) Wakunaga Pharmaceutical Co., Ltd. (not to exceed Twenty Seven Million Five Hundred Thousand Dollars (\$27,500,000) in the aggregate with respect to the Program Compound known as ABT-492 pursuant to the Wakunaga Agreement). Any payments made by Abbott to John Hancock pursuant to Sections 6.2 and 6.3(a)-(e) shall constitute Program Related Costs. Any payment made by Abbott to John Hancock pursuant to Section 6.3(f) shall not constitute Program Related Costs. Set forth on Exhibit 1.43 is an example of the calculation of Program Related Costs for a particular Program Compound.

1.44 "Program Term" shall mean a period of four (4) consecutive Program Years.

1.45 "Program Year" shall mean a period of twelve (12) consecutive calendar months commencing on January 1 of each year, except that the first Program Year shall commence on the Execution Date and end on December 31, 2001.

1.46 "Quarterly Reporting Period" shall mean the calendar quarter with respect to the U.S. Territory together with the fiscal quarter ending on the final day of February, May, August and November (as the case may be) with respect to the International Territory. For example, the Quarterly Reporting Period that comprises the second calendar quarter with respect to the U.S. Territory also includes the period from March 1 through May 31 with respect to the International Territory. If Abbott adopts the calendar year as its fiscal year for the International Territory, then the Quarterly Reporting Period for the International Territory shall also be the calendar quarter.

1.47 "Research Program" shall mean all of Abbott's, its Affiliates' and Subcontractors' activities directed towards obtaining Regulatory Approval for the Products, including research, development, safety and efficacy studies, clinical trials, process development, formulation work, regulatory, quality, data collection and analysis and project management.

1.48 "Regulatory Approval" shall mean: (i) with respect to the U.S. Territory, the receipt of approval from the FDA to market a Product in the U.S. Territory; and (ii) with respect to any country in the International Territory, receipt of the governmental approvals required to

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market a Product in such country, including any pricing and reimbursement authorization required in such country.

1.49 "Replacement Compound" shall mean a compound (i) made available to Abbott as a result of any transaction involving Abbott or its Affiliates (whether by merger, acquisition or sale of assets or equity, or by license (or otherwise), (ii) used for the same class of indications as the Ceased Compound (for example, anti-infectives, cancer, cardiovascular or pain), and (iii) having at least the current and projected potential commercial value to John Hancock as the Ceased Compound.

1.50 "Royalty Term" shall mean, with respect to each Product in each country, a period of ten (10) years from the date of First Commercial Sale of such Product in such country; provided that (i) the obligation to make royalty payments on the Product shall not begin until the two-year anniversary of the Execution Date (and only with respect to Net Sales occurring on or after such date) and (ii) Abbott's obligation to make royalty payments shall cease on December 31, 2015.

1.51 "Subcontractor" shall have the meaning given in Section 2.4.

1.52 "Taisho Agreement" shall mean the Co-Development Agreement dated September 30, 1997 between Taisho Pharmaceutical Co., Ltd. and Abbott related to the Program Compound known as ABT-773.

1.53 "Territory" shall mean both the U.S. Territory and the International Territory, excluding the Eisai Territory with respect to the Program Compound known as ABT-751.

1.54 "U.S. Territory" shall mean the United States of America, excluding Puerto Rico and the U.S. Virgin Islands.

1.55 "Wakunaga Agreement" shall mean the License Agreement dated December 1, 1999 between Wakunaga Pharmaceutical Co., Ltd. and Abbott related to the Program Compound known as ABT-492.

ARTICLE 2 ANNUAL RESEARCH PROGRAM

2.1 Research Program Term. The Research Program shall be conducted by Abbott during the Program Term, and beyond the Program Term until Abbott either abandons development in accordance with the terms hereof or receives Regulatory Approval for each Program Compound, or some combination thereof.

2.2 Research Plan. The Research Program shall be conducted by Abbott in each Program Year in accordance with the Annual Research Plan for such Program Year. The Annual

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Research Plan will be provided to John Hancock until Abbott either abandons development in accordance with the terms hereof, or receives Regulatory Approval for, each Program Compound in the U.S. Territory, or some combination thereof. The Annual Research Plan shall be prepared by Abbott and presented to John Hancock at least thirty (30) days prior to the start of each Program Year. The first Annual Research Plan for the first Program Year is attached as Exhibit 1.6. Abbott may modify the Annual Research Plan from time to time in order to best meet the objectives of the Research Program. Any such modifications to the Annual Research Plan shall be promptly provided to John Hancock. In addition, Abbott shall provide an Annual Research Plan for each year after the end of the Program Term as long as there is an active research program for any Program Compounds.

2.3 Conduct of Research. Abbott shall use Commercially Reasonable Efforts to conduct the Research Program in good scientific manner and using good laboratory practices, to achieve the objectives of the Research Program efficiently and expeditiously and to comply with all applicable laws and regulations. Notwithstanding anything in this Agreement to the contrary, Abbott does not represent, warrant or guarantee that the Research Program will be successful in whole or in part or result in the registration or commercialization of any pharmaceutical products or that any Products obtaining Regulatory Approval will be a commercial success.

2.4 Subcontracting Research. Abbott may subcontract or outsource to Affiliates or third persons (each, a "Subcontractor") any portion of the Annual Research Plan. Consistent with Abbott's past practices, each Subcontractor shall enter into a confidentiality agreement with Abbott and agreements pursuant to which such Subcontractor is required to comply with all applicable laws and regulations, including conducting the Research Program in good scientific manner and using good laboratory practices, with respect to its work on the Research Program. Abbott shall supervise and be responsible under this Agreement for the work of each such Subcontractor on the Research Program and no subcontracting or outsourcing shall relieve Abbott of any of its obligations hereunder.

2.5 Research Reports and Records. Abbott shall, no later than thirty (30) days before the last day of each Program Year, provide John Hancock with a reasonably detailed report setting forth the status of the Research Program and all Program Related Costs expended by Abbott during such Program Year. The Program Related Costs set forth in such report may include good faith estimates with respect to the last three (3) months of the Program Year, provided that the report under this Section 2.5 for the following Program Year contains the actual Program Related Costs for that three (3) month period. Such report shall also contain such other information related thereto as John Hancock may reasonably request from time to time. Abbott shall, and shall cause each Subcontractor to, maintain complete and accurate records, in sufficient detail and in good scientific manner appropriate for patent and regulatory purposes and for purposes of demonstrating compliance with the terms hereof, that fully and properly reflect all work done, results achieved and Program Related Costs expended in performance of the Research Program. The books and records of Abbott and each Subcontractor related to the Research Program, including, without limitation, those related to the expenditure of Program Related Costs, shall be subject to copying, inspection and audit by (and at the expense of) John

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Hancock at any time and from time to time. Such audit shall occur upon reasonable notice and during normal business hours by an independent auditor selected by John Hancock and reasonably acceptable to Abbott. John Hancock and its independent auditor shall maintain such records and information of Abbott in confidence in accordance with Article 10 and shall not use such records or information except to the extent permitted by this Agreement, including any enforcement of the provisions hereof. In the event that such audit reveals any material breach of Abbott's responsibilities hereunder, Abbott shall (i) pay the reasonable fees and expenses charged by such auditor, and (ii) fully and promptly cure such breach.

ARTICLE 3 RESEARCH FUNDING

3.1 John Hancock Program Payments. John Hancock shall make the following installment payments on the applicable payment date (the "Payment Date"), for the applicable Program Year, to Abbott to help support the Research Program (the "Program Payments"):

<u>Payment Date</u>	<u>Amount</u>
December 1, 2001	\$52,000,000
December 1, 2002	\$54,000,000
December 1, 2003	\$55,000,000
December 1, 2004	\$57,000,000

All Program Payments shall be expended by Abbott on Program Related Costs and for no other purpose. If John Hancock has not received at least thirty (30) days prior to the Payment Date both (i) the Annual Research Plan for such year and (ii) the report described in Section 2.5 for the previous Program Year, then John Hancock's obligation to make the Program Payment due on such Payment Date shall be suspended until thirty (30) days have elapsed from the date of John Hancock's receipt of both such Annual Research Plan and report.

3.2 Abbott Funding Obligation. Abbott shall spend on Program Related Costs: (i) during each Program Year, at least the Annual Minimum Spending Target for such Program Year and (ii) at least the Aggregate Minimum Spending Target during the Program Term. John Hancock's sole and exclusive remedies for Abbott's failure to fund the Research Program in accordance with this Section 3.2 (but not for any other breach of Abbott's other obligations hereunder) are set forth in Sections 3.3, 3.4 and 7.2.

3.3 Carryover Provisions. Abbott shall be permitted to charge its funding obligations under Section 3.2 only as follows:

- (a) If in any Program Year Abbott spends on Program Related Costs, the full amount of the Program Payment provided by John Hancock for such Program Year, but does not spend the full amount of the Annual Minimum Spending Target for such Program Year (including any Annual Carryover

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Amounts from any prior Program Years), Abbott will spend on Program Related Costs the difference between its expenditure on Program Related Costs for such Program Year and the Annual Minimum Spending Target for such Program Year (the "Annual Carryover Amount") in the subsequent Program Year. John Hancock's obligation to make any Program Payment for such subsequent Program Year, if any, pursuant to Section 3.1, shall be deferred until the time that Abbott has spent and notifies John Hancock that it has spent the Annual Carryover Amount in such subsequent Program Year; and

- (b) If Abbott does not expend on Program Related Costs the full amount of the Aggregate Spending Target during the Program Term, Abbott will expend the difference between its expenditures for Program Related Costs during the Program Term and the Aggregate Spending Target (the "Aggregate Carryover Amount") on Program Related Costs during the subsequent year commencing immediately after the end of the Program Term. If Abbott does not spend the Aggregate Carryover Amount on Program Related Costs during such subsequent year, Abbott will pay to John Hancock one-third of the Aggregate Carryover Amount that remains unspent by Abbott, within thirty (30) days after the end of such subsequent year.

3.4 Termination of John Hancock's Program Payment Obligation. If Abbott: (i) abandons development of all Preclinical Programs and Program Compounds in any Program Year during the Program Term (it being understood that such abandonment need not occur entirely in one Program Year); (ii) does not expend on Program Related Costs during any Program Year the full amount of the Program Payment made by John Hancock for such Program Year; (iii) does not reasonably demonstrate in its Annual Research Plan, its intent and reasonable expectation to expend on Program Related Costs during the next Program Year an amount in excess of the Program Payment to be provided by John Hancock for such year; or (iv) does not reasonably demonstrate in its Annual Research Plan its intent and reasonable expectation to expend on Program Related Costs during the Program Term an amount in excess of the Aggregate Spending Target, John Hancock's obligation to make any remaining Program Payments pursuant to Section 3.1 shall terminate. In addition, in the case of either (i) or (ii) above, Abbott shall refund (not later than the 10th day following such event) to John Hancock the amount, if any, by which the Program Payment made by John Hancock for such year (in the case of (i) above meaning the Program Year in which all Preclinical Programs and Program Compounds were finally abandoned), if any, exceeds one-half of the Program Related Costs actually spent by Abbott during that Program Year.

3.5 Hancock Funding Obligation. John Hancock's entire obligation hereunder shall be limited to providing the Program Payments set forth in Section 3.1. Abbott shall be solely responsible for funding all Program Related Costs in excess of the Program Payments from John Hancock.

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ARTICLE 4 PRODUCT RESEARCH AND DEVELOPMENT

4.1 Commercially Reasonable Efforts. Abbott shall be solely responsible for the clinical development, government approval, manufacturing, marketing, sales and distribution of Products. Abbott will use, and will cause each of its Affiliates and Licensees to use, Commercially Reasonable Efforts to pursue the clinical development, government approval, manufacturing, marketing, sales and distribution of Products throughout the Territory. The obligations of Abbott, its Affiliates and Licensees with respect to any Product under this Article 4 are expressly conditioned upon the safety, efficacy and commercial feasibility of each Product, consistent with using Commercially Reasonable Efforts, but no license, assignment or other transfer of rights by Abbott will modify or reduce Abbott's obligations hereunder (except as set forth in Article 14). It is the parties' expectation that under normal circumstances Abbott will file for Regulatory Approval with respect to each Product in Europe within two (2) years from the date of the NDA filing for such Product in the U.S. Territory and in Japan within five (5) years from such NDA filing date; provided, however, that these time frames may be extended or otherwise altered based upon unforeseen circumstances that legitimately impact such regulatory filings in such foreign jurisdictions.

4.2 Marketing and Sale Responsibility. Without limiting the generality of Section 4.1, within six (6) months of obtaining Regulatory Approval for a Product in a given country, Abbott, its Affiliates or Licensees shall commence to market and sell such Product in such country. Abbott's obligation to market and sell a Product shall not apply to a Product in any country if Abbott has not commenced or has ceased marketing and selling such Product in such country substantially/primarily on account of adverse business or financial conditions caused by the regulatory authorities or other governmental authorities of such country (including not commencing marketing and selling in a country where the regulatory authorities have price or reimbursement approval and the price or reimbursement approval or that proposed by the regulatory authorities or government authorities is unacceptable to Abbott) which causes the marketing and sale of such Product in such country to be contrary to the financial best interests of John Hancock and Abbott; provided, however, that Abbott, its Affiliates or Licensees shall commence or resume marketing and sale of such Product in such country as soon as reasonably practical after such adverse business or financial conditions cease to exist.

4.3 Failure of Program Compound to Progress.

- (a) Preclinical Programs: ED Program, FTI Program and MMPI Program. With respect to any: (i) Program Compound resulting from a Preclinical Program that Abbott ceases to develop past Phase I Clinical Trial (i.e., does not enter a Phase II Clinical Trial) (a "Failed Early Stage Program Compound"), for which Abbott or its Affiliates has or will have one or more other compounds in such respective Preclinical Program (which

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includes all in-licensed compounds not yet approved for marketing), the next compound to enter Phase I Clinical Trials from such Preclinical Program shall be considered a Program Compound in all respects hereunder, as of the date of the cessation of such Failed Early Stage Program Compound; provided however, with respect to each Preclinical Program, there shall be no more than three Program Compounds substituted under this Section 4.3(a). At the time a Preclinical Program becomes a Ceased Preclinical Program, Abbott shall have no further obligation to provide a substitute for a Failed Early Stage Program Compound.

- (b) Failure of ABT-492 or ABT-510 to Yield a Compound that Enters a Phase II Clinical Trial. If (i) ABT-492 fails to enter a Phase II Clinical Trial, or (ii) ABT-510 fails to enter a Phase II Clinical Trial, then within six (6) months after the failure of the first such Program Compound to enter a Phase II Clinical Trial, Abbott shall substitute a compound in a Phase II Clinical Trial having a commercial value approximately in the range of under review by JH that currently expected by for ABT-492 and ABT-510 (as of the date of execution of this Agreement).
- (c) Cessation as a Result of an Acquired Replacement Compound. If Abbott ceases or substantially ceases developing, marketing or selling any Program Compound (that is in Phase I or beyond) or Product (a "Ceased Compound"), and if such cessation or substantial cessation is a result of Abbott's acquisition of a Replacement Compound, then the Replacement Compound shall be considered a Program Compound and/or Product from the date of such acquisition and the Ceased Compound shall no longer be considered a Program Compound.

In the event that the Replacement Compound has been approved for marketing by the FDA and the Ceased Compound has not been approved for marketing by the FDA as of the date of such acquisition, Section 4.3(d) shall apply and the first paragraph of this Section 4.3(c) shall not apply.

Except as set forth above, in the event that the Ceased Compound has been approved for marketing by the FDA as of the date of such acquisition, John Hancock shall have the option, in its sole discretion, to have Abbott maximize the commercial value of the Ceased Compound pursuant to Section 4.3(d) instead of having the Ceased Compound be subject to this Section 4.3(c).

- (d) Cessation for Reasons Other than Section 4.3(c). If a Program Compound (that is in Phase I or beyond) or Product becomes a Ceased Compound for any reason not as a result of the acquisition of a Replacement Compound

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as set forth in Section 4.3(c) above and provided that such Ceased Compound has commercial value, then

- (i) as soon as is practicable Abbott shall maximize the commercial value, if any, of the Ceased Compound to both parties by out-licensing or divesting such Ceased Compound to a third party; provided, however, if the out-licensing or divestiture of such Ceased Compound requires the approval of Taisho Pharmaceutical Co., Ltd. (in the case of Program Compound ABT-773), Eisai Co., Ltd. (in the case of Program Compound ABT-751) or Wakunaga Pharmaceutical Co., Ltd. (in the case of Program Compound ABT-492), pursuant to the respective In-License Agreement, and such entity does not grant such approval, then Abbott shall within a reasonable period of time but not less than three months substitute a compound (which shall thereupon become a "Program Compound") having at least the current and projected potential commercial value with respect to ~~as~~ such Ceased Compound;
- (ii) John Hancock shall be permitted (but have no obligation) to assist in such out-license and/or divestiture effort; and
- (iii) Except as set forth below, Abbott shall remunerate John Hancock based on the sales of such Ceased Compound by the third party that has acquired or licensed the Ceased Compound (the "Acquirer") in a manner most consistent with the allocation that would have applied hereunder had such Ceased Compound not been so out-licensed or divested, i.e., in accordance with the royalties and milestones payable hereunder. The appropriate royalty rate payable to John Hancock shall be determined by adding the Acquirer's Net Sales of the Ceased Compound to the total Net Sales of other Products. ~~In the event Abbott receives any non-royalty compensation from the Acquirer in excess of that needed to pay John Hancock in accordance with the financial terms of this Agreement (including, for example, up fronts, license fees, milestones, etc.), Abbott shall remit eight and one-half percent (8.5%) of any such excess to John Hancock. In the event all remuneration for such Ceased Compound is in the form of a non-royalty payment, Abbott shall remit eight and one-half percent (8.5%) of such remuneration to John Hancock and shall have no further obligation to pay milestones and/or royalties to John Hancock under this Section 4.3(d)(iii).~~

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- (e) Divestiture. Notwithstanding anything herein to the contrary, Abbott shall not divest or out-license any Program Compound (which shall mean a sale, license or other transfer by Abbott of the right to develop, market and sell any Product containing such Program Compound either (i) in all of North America or (ii) in the countries of Japan and/or the European Union that have at least two-thirds of the total population of Japan and the European Union), without John Hancock's prior written consent, which consent shall not be unreasonably withheld; provided however, if such Program Compound is being divested as a result of direction from the Federal Trade Commission to so divest, John Hancock's written consent shall not be required.
- (f) Notice and Information. Abbott shall promptly notify John Hancock upon occurrence of any decision by Abbott to cease or substantially cease developing, marketing or selling any Program Compound or Product. In addition, Abbott shall provide to John Hancock all information reasonably requested by John Hancock related to any Replacement Compound, Program Compound, or Product that is subject to the provisions of this Section 4.3.
- (g) Commercially Reasonable Efforts. Nothing in this Section 4.3 shall lessen any of Abbott's other obligations under this Agreement nor permit Abbott to perform in any manner that is not clearly consistent with using its Commercially Reasonable Efforts hereunder.

4.4 Arm's-Length. Abbott shall not research, develop, manufacture, market, sell, distribute, out-license or otherwise treat any Program Compounds or Products differently, as compared to any other Abbott compounds or products, on account of any of John Hancock's rights hereunder. Furthermore, all distribution agreements, licenses, out-licenses and other agreements relating to the research, development, manufacturing, marketing, sale, distribution, licensing, out-licensing or divestiture of and all other transactions involving any Program Compounds or Products to or with any third party (except to Abbott's Affiliates) shall be on arm's-length terms and conditions.

4.5 In-License Agreements. Abbott shall comply in all material respects with the terms and conditions of the In-License Agreements. Abbott shall not amend the In-License Agreements or waive any of its rights thereunder without John Hancock's prior written consent (such consent not to be unreasonably withheld), unless such amendment or waiver does not have and would not have a material adverse effect on John Hancock's interests hereunder. To the extent that Abbott or any of its Affiliates obtains the right to market, distribute or sell Products containing the Program Compound known as ABT-751 in the Eisai Territory, then sales by Abbott, its Affiliates and Licensees of such Products in such territory shall be included in all respects hereunder (including without limitation in Net Sales and the Territory).

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ARTICLE 5
PROGRAM INVENTIONS

5.1 Ownership. As between Abbott and John Hancock, all inventions, innovations, ideas, discoveries, technology, know-how, methods, data, applications and products (in each case whether or not patentable) arising from the Research Program or otherwise related to the Program Compounds (collectively, the "Program Inventions") shall be exclusively owned by or assigned to Abbott. Abbott shall not divest, out-license or otherwise transfer any of its right, title or interest in or to any Program Inventions which would prevent or impair Abbott's ability to fulfill its obligations to John Hancock under this Agreement.

5.2 Patent Prosecution and Maintenance. To the extent it owns a Program Invention or has the contractual right to pursue patent protection for a Program Invention, Abbott will use Commercially Reasonable Efforts to obtain patent protection for the Program Inventions in the Territory. As between Abbott and John Hancock, Abbott shall be responsible for all costs and expenses and control all decisions related to pursuing such patent protection, including the preparation, filing (foreign and/or domestic), prosecution, issuance and maintenance of patent applications or patents covering Program Inventions.

5.3 Enforcement. As between Abbott and John Hancock, Abbott shall have the sole right and authority to enforce the patents or any other rights arising from the Program Inventions (including without limitation the Patents) against any infringers. If Abbott initiates any action or lawsuit to enforce such patents or other rights, it shall be solely responsible for the cost and expense thereof. Abbott will promptly notify John Hancock at such time as it becomes aware of any infringement activities and of any such enforcement actions or lawsuit, and Abbott will provide information concerning them as reasonably requested by John Hancock. All moneys recovered upon the final judgment or settlement of any such action or lawsuit, less the out-of-pocket cost and expense thereof, shall be allocated between Abbott and John Hancock proportional to Abbott's lost profits and John Hancock's lost royalties as a result of such infringement.

ARTICLE 6
MILESTONE PAYMENTS TO JOHN HANCOCK

6.1 [Intentionally omitted].

6.2 Management Fee. ~~{Under discussion.}~~ On December 1, 2001, 2002 and 2003, Abbott shall pay to John Hancock a management fee, each of which shall be in the amount of One Million Dollars (\$1,000,000).

6.3 Milestone Notification and Payments. Abbott shall promptly notify John Hancock of the occurrence any of the following events that give rise to Abbott's obligation to make a

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payment pursuant to this Section 6.3 (each, a "Milestone Payment"). Except as hereinafter limited, Abbott shall pay the following Milestone Payments to John Hancock in the amounts and at the times set forth below with respect to each Program Compound:

- (a) One Million Dollars (\$1,000,000) shall be paid within thirty (30) days after the allowance by the FDA of each Investigational New Drug Application for such Program Compound;
- (b) Two Million Dollars (\$2,000,000) shall be paid within thirty (30) days after the initiation of each Phase I Clinical Trial with such Program Compound;
- (c) Three Million Dollars (\$3,000,000) shall be paid within thirty (30) days after the initiation of each Phase II Clinical Trial with such Program Compound;
- (d) Four Million Dollars (\$4,000,000) shall be paid within thirty (30) days after the initiation of each Phase III Clinical Trial with such Program Compound; and
- (e) Five Million Dollars (\$5,000,000) shall be paid within thirty (30) days after the filing of each NDA with the FDA for such Program Compound.

In addition, except as hereinafter limited, Abbott shall pay the following Milestone Payments to John Hancock in the amounts and at the times set forth below:

- (i) (i) Twenty Million Dollars (\$20,000,000) shall be paid within thirty (30) days after the Regulatory Approval of the first Product in the U.S. Territory;
- (ii) Ten Million Dollars (\$10,000,000) shall be paid within thirty (30) days after the Regulatory Approval of the second Product in the U.S. Territory; and
- (iii) Ten Million Dollars (\$10,000,000) shall be paid within thirty (30) days after the Regulatory Approval of third Product in the U.S. Territory.

The aggregate of Milestone Payments under Section 6.3(a), (b), (c), (d), and (e) for all Program Compounds shall be limited to Fifteen Million Dollars (\$15,000,000), and once such aggregate limit has been paid, no further payments shall be due and payable under Sections 6.3(a), (b), (c), (d) or (e).

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The aggregate of Milestone Payments under Section 6.3(f) for all Program Compounds shall be limited to Forty Million Dollars (\$40,000,000), and such Milestone Payment shall not be paid more than once per Program Compound. Once such aggregate limit has been paid, no further payments shall be due and payable under Section 6.3(f). The aggregate of Milestone Payments under Sections 6.3(a), (b), (c), (d) and (e) for all Program Compounds shall be limited to One Million Dollars (\$1,000,000) during the first Program Year, Three Million Dollars (\$3,000,000) during the second Program Year, and Four Million Dollars (\$4,000,000) during the third Program Year, and once such annual limit has been reached for these particular Program Years, no further payments shall be due under Sections 6.3(a), (b), (c), (d) and (e) for the remainder of such Program Year; provided that any amounts that would have been due to John Hancock but for such annual limits shall be paid in subsequent Program Years so long as the Program Compound to which it relates has not been abandoned, divested or out-licensed by Abbott subject to the Fifteen Million Dollar (\$15,000,000) limitation set forth above. Subject to the limitations above, the Milestone Payments under Section 6.3(a)-(e) may be made more than once with respect to each Program Compound.

The aggregate of Milestone Payments under Section 6.3(f) for all Program Compounds shall be limited to Forty Million Dollars (\$40,000,000), and once such aggregate limit has been paid, no further payments shall be due and payable under Section 6.3(f). In addition, Milestone Payments under Section 6.3(f) shall not be paid more than once for any particular Program Compound.

Exhibit 6.3 sets forth the current stage of clinical development for each Program Compound.

ARTICLE 7 ROYALTIES

7.1 Royalty Rates. Subject to the limitation set forth below, Abbott shall pay to John Hancock royalties equal to the following percentages of Net Sales, aggregated on a yearly basis, of all Products in the Territory:

<u>Royalty percentage</u>	<u>Yearly Net Sales (in millions) of all Products in the Territory</u>
8.5% of those Net Sales	up to \$400
and then 4% of those Net Sales	in excess of \$400 up to \$1,000
and then 1% of those Net Sales	in excess of \$1,000 up to \$2,000
and then 0.5% of those Net Sales	in excess of \$2,000

Net Sales shall be aggregated yearly (i) in the case of the U.S. Territory, on a calendar year basis, together with (ii) in the case of the International Territory, on a December 1 to November 30 basis, in each case consistent with the determination of Quarterly Reporting Periods.

7.2 Royalty Term. The duration of the obligation to make royalty payments on each Product shall be determined on a country-by-country basis, shall commence for such Product

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upon the First Commercial Sale thereof in such country, and shall last for the duration of the Royalty Term in each given country for such Product.

ARTICLE 8
ROYALTY REPORTS AND ACCOUNTING

8.1 Reports, Exchange Rates. With respect to every Quarterly Reporting Period for which Abbott is obligated to pay any royalty hereunder, Abbott shall furnish to John Hancock a single written report for such Quarterly Reporting Period within sixty (60) days after the end of such Quarterly Reporting Period (that is, within sixty (60) days after each March 31, June 30, September 30 and December 31, as the case may be) showing in reasonably specific detail:

- (a) the total gross sales in each country for each Product sold by Abbott, its Affiliates and Licensees in the Territory and the detailed calculation of Net Sales from gross sales in each country for each Product;
- (b) the royalties payable in Dollars, if any, which shall have accrued hereunder;
- (c) the dates of the First Commercial Sale of each Product in any country in the Territory during such Quarterly Reporting Period; and
- (d) the exchange rates used in determining the amount of Dollars.

With respect to sales of Products invoiced in Dollars, the gross sales, Net Sales (including all adjustments and deductions permitted to be made hereunder in calculating the same), and royalties payable shall be expressed in Dollars. With respect to sales of Products invoiced in a currency other than Dollars, the gross sales, Net Sales (including all adjustments and deductions permitted to be made hereunder in calculating the same) and royalties payable shall be expressed in their Dollar equivalent, calculated using the Inter Bank rate set forth in the International Report published by International Reports Inc. as Foreign Exchange Rates quoted in New York on the day nearest the last business day of the Quarterly Reporting Period.

8.2 Audits.

- (a) Upon the written request of John Hancock and, in the absence of any breach by Abbott hereunder, not more than once in each calendar year, Abbott shall permit John Hancock and an independent certified public accounting firm of nationally recognized standing, selected by John Hancock and reasonably acceptable to Abbott, at John Hancock's expense, to have access during normal business hours to such of the records of Abbott, its Affiliates and Licensees to verify the accuracy of the royalty reports and the amounts and calculation of any payments required

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9.1 Payment Terms. With respect to every Quarterly Reporting Period for which Abbott is obligated to pay a royalty hereunder, such royalties shall be due and payable in a single payment within sixty (60) days of the end of such Quarterly Reporting Period (that is, within sixty (60) days of each March 31, June 30, September 30 and December 31, as the case may be). Payment of royalties may be made in advance of such due date.

9.2 Payment Method. All royalties and other payments by Abbott to John Hancock under this Agreement shall be made by bank wire transfer in immediately available funds in accordance with the instructions set forth on Exhibit 9.2 attached hereto or in accordance with such other instructions as John Hancock may give from time to time.

9.3 Late Payments. Each party shall pay interest to the other on the aggregate amount of any payments by it that are not paid on or before the date such payments are due under this Agreement, including, without limitation, any disputed payments or payments resulting from any audit, at a rate per annum equal to the lesser of (a) the prime rate of interest plus two-hundred (200) basis points as reported by Citibank, N.A. in New York, from time to time (with any change in such reported rate being effective immediately for purposes hereof), or (b) the highest rate permitted by applicable law, calculated on the number of days such payments is delinquent until paid in full in cash. All such amounts shall be payable upon demand.

ARTICLE 10 CONFIDENTIALITY

10.1 Nondisclosure Obligations. Except as otherwise provided in this Article 10, during the term of the Agreement and for a period of ten (10) years thereafter, (a) John Hancock shall maintain in confidence in accordance with such procedures as are adopted by John Hancock to protect its own confidential information and shall use only for purposes of this Agreement (including, without limitation, enforcement of the terms hereof), information and data related to the Program Compounds or Products; and (b) John Hancock shall also maintain in confidence in accordance with such policies, and use only for purposes of this Agreement, all information and data supplied by Abbott under this Agreement, which if disclosed in writing is marked "confidential", if disclosed orally is promptly thereafter summarized and confirmed in writing to the other party and marked "confidential", or if disclosed in some other form is marked "confidential."

10.2 Permitted Disclosures. For purposes of this Article 10, information and data described in clause (a) or (b) above shall be referred to as "Confidential Information". John Hancock may disclose Confidential Information as required by applicable law, regulation or judicial process, provided that John Hancock shall, if legally permitted, give Abbott prompt written notice thereof. The obligation not to disclose or use Confidential Information shall not apply to any part of such Confidential Information that (i) is or becomes patented, published or otherwise part of the public domain other than by acts or omissions of John Hancock in contravention of this Agreement; or (ii) is disclosed to John Hancock by a third party, provided

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such Confidential Information was not obtained on a confidential basis by such third party from Abbott, its Affiliates or Licensees; or (iii) prior to disclosure under the Agreement, was already in the possession of John Hancock, provided such Confidential Information was not obtained directly or indirectly from Abbott, its Affiliates or Licensees under an ongoing obligation of confidentiality; or (iv) is disclosed in a press release agreed to by both parties under Section 10.3 below.

10.3 Publicity Review. Without the prior written consent of the other party, neither party shall make any statement to the public regarding the execution and/or any other aspect of the subject matter of this Agreement and John Hancock shall not make any statement to the public regarding any work under the Research Program; provided that, Abbott may make statements to the public regarding work done under the Research Program (without reference to or mention of John Hancock) and the commercialization of any Products resulting therefrom in accordance with its standard business practices. John Hancock and Abbott shall not disclose any terms or conditions of this Agreement to any third party without the prior consent of the other party, except as set forth above in this Section 10.3 or as required by applicable law, regulation or court order. The parties agree not to issue a press release announcing the execution of this Agreement.

ARTICLE 11 TERM AND TERMINATION

11.1 Expiration. This Agreement shall expire upon satisfaction of Abbott's obligations to pay royalties under Section 7.2 and all other amounts under this Agreement.

11.2 Termination; Material Breach. It is the parties' express intent that consideration shall be given to remedying any breach of this Agreement through the payment of monetary damages or such other legal or equitable remedies as shall be appropriate under the circumstances and that there shall only be a limited right to terminate this Agreement under the following circumstances.

- (a) In the event that the court, in accordance with the procedures set forth in Section 16.2, has issued a ruling that John Hancock has breached its obligation under Section 3.1 of this Agreement (obligation to make payments), and such ruling specified the actions to be taken by John Hancock on account of such breach, and John Hancock has failed to comply with the terms of such ruling within the time period specified therein for compliance and the time for any appeal has expired without the submission of an appeal, then, in addition to all other rights available to Abbott under law and equity, including its right to enforce such ruling in court, Abbott shall have the right to terminate the Agreement as a result of John Hancock's failure to abide by the terms of this Agreement and such ruling.

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- (b) In the event that the court, in accordance with the procedures set forth in Section 16.2, has issued a ruling that Abbott has breached a material obligation under this Agreement, and such ruling specified the actions to be taken by Abbott on account of such breach, and Abbott has failed to comply with the terms of such ruling within the time period specified therein for compliance and the time for any appeal has expired without the submission of an appeal, then, in addition to all other rights available to John Hancock under law and equity, including its right to enforce such ruling in court, John Hancock shall have the right to terminate the Agreement, each as a result of Abbott's failure to abide by the terms of this Agreement and such ruling.

11.3 Effect of Expiration or Termination. Expiration or, if applicable, termination of this Agreement shall not relieve the parties of any obligation accruing prior to such expiration or termination. The provisions of Articles 8 (Royalty Reports and Accounting), 10 (Confidentiality), 11 (Term and Termination), 12 (Warranties and Indemnification) and 16 (Miscellaneous) shall survive the expiration or termination of this Agreement.

ARTICLE 12 WARRANTIES AND INDEMNITY

12.1 John Hancock Representations and Warranties. John Hancock represents and warrants to Abbott that as of the Execution Date:

- (a) The execution and delivery of this Agreement and the performance of the transactions contemplated hereby have been duly authorized by all appropriate John Hancock corporate action. This Agreement constitutes John Hancock's valid and binding legal obligation, enforceable against it in accordance with its terms.
- (b) The performance by John Hancock of any of the terms and conditions of this Agreement on its part to be performed does not and will not constitute a breach or violation of its organizational documents or any other material agreement or understanding, written or oral, to which it is a party or any law, statute, rule or regulation by which it is bound.
- (c) No consent, approval, license or authorization of, or designation, declaration or filing with, any court or governmental authority is or will be required on the part of John Hancock in connection with the execution, delivery and performance by John Hancock of this Agreement or any other agreements or instruments executed and delivered by John Hancock in connection herewith or therewith, including, without limitation, any filings

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pursuant to federal or state securities laws or pursuant to any federal anti-trust laws.

- (d) Neither John Hancock nor any person acting on its behalf (i) has taken or will take any action which would subject this Agreement and the consummation of the transactions contemplated hereby to the registration or qualification requirements of any federal or state securities laws, (ii) has dealt with any broker, finder or other similar person in connection with the transactions contemplated by this Agreement or (iii) is under any obligation to pay any broker's fee, finder's fee or commission in connection with such transactions.

12.2 Abbott Representations and Warranties. Abbott represents and warrants to John Hancock that as of the Execution Date:

- (a) The execution and delivery of this Agreement and the performance of the transactions contemplated hereby have been duly authorized by all appropriate Abbott corporate action. This Agreement constitutes Abbott's valid and binding legal obligation, enforceable against it in accordance with its terms.
- (b) The performance by Abbott of any of the terms and conditions of this Agreement on its part to be performed does not and will not constitute a breach or violation of its organizational documents or any other agreement or understanding, written or oral, to which it is a party or any law, statute, rule or regulation by which it is bound.
- (c) No consent, approval, license or authorization of, or designation, declaration or filing with, any court or governmental authority is or will be required on the part of Abbott in connection with the execution, delivery and performance by Abbott of this Agreement or any other agreements or instruments executed and delivered by Abbott in connection herewith or therewith, including, without limitation, any filings pursuant to federal or state securities laws or pursuant to any federal anti-trust laws, except those consents, approvals, licenses, authorizations, and other requirements imposed by governmental authorities (both U.S. and foreign) and such declarations and filings with governmental authorities (both U.S. and foreign) required in the normal course of pharmaceutical research, development, marketing and sale.
- (d) Set forth on Exhibit 12.2(d) is the full name, chemical name, detailed description of the stage of development and current status, for each Program Compound. Set forth on Exhibit 1.6 in each Annual Research Plan is a description of projected milestones and dates thereof, projected

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year of NDA filing, and projected costs to be incurred by Abbott during the Program Term, for each Program Compound. Such projections were prepared in good faith and with due care based on reasonable assumptions, and represent the reasonable estimate of Abbott based on information available as of the date of such projections and as of the date hereof; it being agreed that such projections do not constitute any warranty as to the future performance of the Program Compounds and that actual results may vary from such projections.

- (e) Set forth on Exhibit 12.2(e) is a list and description of all domestic and foreign patents, patent rights, patent applications and all patent applications that are in the process of being prepared that are owned by or registered in the name of Abbott, or of which Abbott is a licensee or in which Abbott has any right, which claim any of the Program Compounds (the "Patents"). Abbott solely owns all of the Patents, except as indicated on Exhibit 12.2(e). All of the material Patents have been duly filed in or issued by the United States Patent and Trademark Office or the equivalent foreign patent office identified on Exhibit 12.2(e), as the case may be, and have been properly maintained and renewed in accordance with all applicable laws and regulations. With respect to the Patents that it does not own, Abbott has an exclusive and valid license thereunder to develop, make, have made, use, market and sell (with the right to sublicense) the applicable Program Compounds in the entire Territory; provided however, (i) with respect to Italy, Abbott has such rights that are co-exclusive with Eisai Co. Ltd. for the Program Compound known as ABT-751 and (ii) with respect to Japan, Abbott has such rights that are co-exclusive with Taisho Pharmaceutical Co., Ltd. for the Program Compound known as ABT-773). Except with respect to the Preclinical Programs, to Abbott's knowledge, it is not necessary to obtain or license any patents, patent rights, inventions, copyrights, manufacturing processes, formulae, trade secrets, proprietary rights or know-how that it does not currently have in order to (i) develop, make, have made, use, market and sell the Program Compounds or (ii) conduct the Research Program as heretofore conducted and as proposed to be conducted. Except with respect to those Program Compounds that are the subject of In-License Agreements, the Program Compounds are owned exclusively by Abbott, free and clear of any liens or encumbrances of any other person and, to Abbott's knowledge, Abbott does not require the consent of any other person to develop, make, have made, use, market and sell the Program Compounds.
- (f) Except as set forth in Exhibit 12.2(f) 1 (but in any event, as of the Execution Date, Abbott does not believe such matters to be material) 1, Abbott has not received any communications alleging that, and no claim is pending or, to the knowledge of Abbott, threatened to the effect that, the

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operations of Abbott with respect to the Research Program or the Program Compounds infringe upon or conflict with (or will infringe or conflict with) the asserted rights of any other person under any domestic or foreign patent, trademark, service mark, copyright, trade secret, proprietary right or any other intellectual property right, and, except for the Preclinical Programs, there is no material basis known to Abbott for any such claim (whether or not pending or threatened). No claim is pending or, to the knowledge of Abbott, threatened to the effect that any of the Patents are invalid or unenforceable by Abbott, and there is no material basis known to Abbott for any such claim (whether or not pending or threatened). The publication of any material technical information with respect to the Program Compounds developed by and belonging to Abbott is subject to review and approval under Abbott's existing procedures.

- (g) Except as set forth in the In-License Agreements and customary employment and consulting agreements with Abbott's employees and consultants, there are no outstanding options, licenses, or agreements of any kind relating to the Patents or any of the Program Compounds or the transactions contemplated by this Agreement, which license the Patents or any technical information developed in the course of the clinical development program to any third party to register, market or sell any of the Program Compounds or Products.
- (h) To the knowledge of Abbott with respect to the Research Program and each of the Program Compounds, Abbott is not now, and in performing its obligations hereunder will not be, in any way making an unlawful or wrongful use of any confidential information, know-how, or trade secrets of any other person.
- (i) Neither this Agreement nor any Exhibit to this Agreement (including the compound reports attached as Exhibit 12.2(f) hereto (the "Compound Reports")) contains any untrue statement of material fact or omits to state any material fact necessary to make the statements contained herein or therein not misleading. There is no fact known to Abbott (other than generally available information concerning the pharmaceutical industry in general) as of the date of this Agreement that has not been disclosed in this Agreement or any Exhibit to this Agreement which has resulted in, or could reasonably be expected to result in, a material adverse effect on the prospects or condition (including safety, efficacy, scientific viability or commercial) of the Research Program or any of the Program Compounds.
- (j) Neither Abbott nor any person acting on its behalf (i) has taken or will take any action which would subject this Agreement and the consummation of the transactions contemplated hereby to the registration

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or qualification requirements of any federal or state securities laws, (ii) has dealt with any broker, finder or other similar person in connection with the transactions contemplated by this Agreement or (iii) is under any obligation to pay any broker's fee, finder's fee or commission in connection with such transactions.

- (k) Other than generally publicized actions, proceedings or investigations concerning the pharmaceutical industry in general, there is no action, proceeding or investigation pending or, to the knowledge of Abbott, threatened which (i) questions the validity of this Agreement or any action taken or to be taken by Abbott pursuant thereto or (ii) which has resulted in, or could reasonably be expected to result in, a material adverse effect on the prospects or condition (including safety, efficacy, scientific viability or commercial) of the Research Program or any of the Program Compounds.
- (l) With respect to the Research Program and each of the Program Compounds, Abbott has (and in the future will have) obtained, to the extent permitted by law, from each of its employees, consultants, Affiliates and Subcontractors an agreement that reasonably protects Abbott's interest in the Program Inventions, Program Compounds and Products.
- (m) With respect to each Program Compound, since the date of its respective Compound Report, to the knowledge of Abbott, no condition, circumstance or fact has arisen (other than generally available information concerning the pharmaceutical industry in general) nor has Abbott made any change in the conduct of the Research Program which, individually or in the aggregate, has resulted in, or could reasonably be expected to result in, a material adverse effect on the prospects or condition (including safety, efficacy, scientific viability or commercial) of such Program Compounds.
- (n) Each In-License Agreement is valid, binding and in full force and effect, and there is no event which has occurred or exists, which constitutes or which, with notice and/or the passage of time, would constitute a material default or breach under any such contract by Abbott or, to Abbott's knowledge, any other party thereto, or would cause the acceleration of any obligation of any party thereto or give rise to any right of termination or cancellation thereof. Abbott has no reason to believe that the parties to each In-License Agreement will not fulfill their obligations thereunder in all material respects or that such parties do not have the right to grant the licenses granted thereunder. Abbott has no reason to believe that it will not fulfill its obligations under the In-License Agreements. Under the Eisai Agreement, neither Abbott nor its Affiliates has the right to market,

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distribute or sell Products containing the Program Compound known as ABT-751 in the Eisai Territory (with the exception of Italy).

12.3 No Conflict. Abbott and John Hancock represent and warrant that this Agreement does not, and will not, conflict with any other right or obligation provided under any other agreement or obligation that Abbott or John Hancock has with or to any third party.

12.4 Compliance with Law. Each party represents and warrants to the other that it will comply with all applicable laws, regulations and guidelines in connection with its performance of its obligations and rights pursuant to this Agreement, including the regulations of the United States and any other relevant nation concerning any export or other transfer of technology, services or products.

12.5 No Other Warranties. EACH PARTY TO THIS AGREEMENT AGREES THAT, EXCEPT FOR THE REPRESENTATIONS AND WARRANTIES CONTAINED IN THIS AGREEMENT, NEITHER PARTY MAKES ANY OTHER REPRESENTATIONS OR WARRANTIES, AND EACH HEREBY DISCLAIMS ANY OTHER REPRESENTATIONS OR WARRANTIES MADE BY ITSELF OR ANY OF ITS OFFICERS, DIRECTORS, EMPLOYEES, AGENTS, FINANCIAL AND LEGAL ADVISORS OR OTHER REPRESENTATIVES, WITH RESPECT TO THE EXECUTION AND DELIVERY OF THIS AGREEMENT OR THE TRANSACTIONS CONTEMPLATED BY THIS AGREEMENT, NOTWITHSTANDING THE DELIVERY OR DISCLOSURE TO THE OTHER OR THE OTHER'S REPRESENTATIVES OF ANY DOCUMENTATION OR OTHER INFORMATION WITH RESPECT TO ANY ONE OR MORE OF THE FOREGOING.

12.6 General Indemnification of John Hancock. Abbott shall indemnify and hold John Hancock and its Affiliates, agents, directors and employees harmless, and hereby forever releases and discharges John Hancock and its Affiliates, agents, directors and employees, from and against all Losses related to or arising out of, directly or indirectly, (i) any negligence, recklessness or intentional misconduct of Abbott or its Affiliates, agents, directors, employees, Subcontractors, licensees (including Licensees) or sublicensees in connection with the Research Program, Program Compounds or Products, or (ii) any manufacture, use, storage, distribution or sale of the Program Compounds or Products by anyone, including without limitation all Losses related to any personal injury or death, or (iii) any breach by Abbott of its representations, warranties or obligations hereunder, or (iv) the consummation of the transactions contemplated hereby, except, in each case, to the extent any such Losses are the result of (A) any breach by John Hancock of its representations, warranties or obligations hereunder, or (B) any negligence, recklessness, or intentional misconduct by John Hancock or its Affiliates, agents, directors, employees.

12.7 Indemnification Relating to Certain In-Licensed Compounds. Abbott shall indemnify and hold John Hancock and its Affiliates, agents, directors and employees harmless, and hereby forever releases and discharges John Hancock and its Affiliates, agents, directors and employees, from and against all Losses to the extent related to or arising out of, directly or

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indirectly, the fact that Abbott's rights in the Program Compounds known as ABT-773, ABT-492 and ABT-751 and the Patents and other patent rights, copyrights, trade secret rights and other intellectual property rights related thereto arise from the Taisho Agreement, the Wakunaga Agreement or the Eisai Agreement respectively, rather than being owned by Abbott as with the other Program Compounds. Accordingly, by way of example and without limiting the foregoing, Abbott's indemnification obligation under this Section 12.7 will arise upon (i) any impairment of Abbott's ability to perform its obligations under this Agreement in the entire Territory as a result of Abbott's rights to the Program Compounds known as ABT-773, ABT-442 and ABT-751 arising from the Taisho Agreement, Wakunaga Agreement and the Eisai Agreement, respectively or (ii) a breach by Abbott or any other person of any of the In-License Agreements; except, in each case, to the extent any such Losses are the result of (A) any breach by John Hancock of its representations, warranties or obligations hereunder, or (B) any negligence, recklessness, or intentional misconduct by John Hancock or its Affiliates, agents, directors, employees.

12.8 Procedure. If John Hancock or any of its Affiliates, agents, directors or employees (each, an "Indemnitee") intends to claim indemnification under this Article 12, it shall promptly notify Abbott (the "Indemnitor") of any Loss or action in respect of which the Indemnitee intends to claim such indemnification, and the Indemnitor shall have the right to participate in, and, to the extent the Indemnitor so desires, to assume the defense thereof with counsel selected by the Indemnitor; provided, however, that an Indemnitee shall have the right to retain its own counsel, with the fees and expenses of such counsel to be paid by the Indemnitor, if representation of such Indemnitee by the counsel retained by the Indemnitor would be inappropriate due to actual or potential differing interests between such Indemnitee and any other party represented by such counsel in such proceedings. The indemnity obligation in this Article 12 shall not apply to amounts paid in settlement of any loss, claim, damage, liability or action if such settlement is effected without the consent of the Indemnitor, which consent shall not be withheld unreasonably or delayed. The failure to deliver notice to the Indemnitor within a reasonable time after the commencement of any such action, if materially prejudicial to its ability to defend such action, shall relieve the Indemnitor of any liability to the Indemnitee under this Article 12 only to the extent arising from the tardiness or absence of such notice, but the omission so to deliver notice to the Indemnitor will not relieve it of any liability that it may have to any Indemnitee otherwise than under this Article 12. The Indemnitee shall cooperate fully with the Indemnitor and its legal representatives in the investigation of any action, claim or liability covered by indemnification under this Article 12, at the expense of the Indemnitor.

12.9 Insurance. Abbott shall at its expense maintain, through self-insurance or otherwise, product liability insurance with respect to the development, manufacture, sale and use of Products and Program Compounds in such amounts and on such terms as Abbott customarily maintains with respect to its other similar products. Abbott shall maintain such insurance for so long as it continues to develop, manufacture or sell any Products or Program Compounds, and thereafter for so long as Abbott customarily currently maintains such insurance.

12.10 Acknowledgment. Abbott and John Hancock acknowledge that Abbott has not delivered or disclosed the contents of any of the In-License Agreements to John Hancock.

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ARTICLE 13 FORCE MAJEURE

Neither party shall be held liable or responsible to the other party nor be deemed to have defaulted under or breached this Agreement for failure or delay in fulfilling or performing any term of this Agreement when such failure or delay is caused by or results from causes beyond the reasonable control of the affected party including but not limited to fire, floods, embargoes, war, acts of war (whether war be declared or not), insurrections, riots, civil commotions, strikes, lockouts or other labor disturbances, acts of God or acts, omission or delays in acting by any governmental authority; provided that such affected party shall provide the other party with prompt notice of the circumstances surrounding such a material failure or delay, after which the parties will amend this Agreement upon terms and conditions that are mutually agreeable to equitably account to the party that does not so fail or delay.

ARTICLE 14 ASSIGNMENT

[Under Discussion] Except as expressly provided hereunder, this Agreement may not be assigned or otherwise transferred, nor may any right or obligations hereunder be assigned or transferred by either party without the consent of the other party; and, in addition, both parties acknowledge and agree that the obligations of Abbott hereunder are personal to Abbott and that Abbott is uniquely qualified to perform them; provided, however, that either party shall be obligated to assign this Agreement and its rights and obligations hereunder in connection with the transfer or sale of all or substantially all of its business, or in the event of its merger or consolidation or change in control or similar transaction and in such event such party shall cause its successor or transferee in such transaction to assume all of the obligations of such party. Any permitted assignee shall assume all obligations of its assignor under this Agreement.

ARTICLE 15 SEVERABILITY

Each party hereby agrees that it does not intend its execution and delivery hereof or its performance hereunder to violate any public policy, statutory or common laws, rules, regulations, treaty or decision of any government agency or executive body thereof of any country or community or association of countries. If and to the extent any term or provision of this Agreement is held to be invalid, illegal or unenforceable by a court or other governmental authority of competent jurisdiction, such invalidity, illegality or unenforceability shall not affect any other term or provision of this Agreement, which shall remain in full force and effect. The holding of a term or provision to be invalid, illegal or unenforceable in a jurisdiction shall not have any effect on the application of the term or provision in any other jurisdiction.

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ARTICLE 16
MISCELLANEOUS

16.1 Notices. Any consent, notice or report required or permitted to be given or made under this Agreement by one of the parties hereto to the other shall be in writing, delivered personally or by facsimile (and promptly confirmed by personal delivery, U.S. first class mail or courier), U.S. first class mail or courier, postage prepared (where applicable), addressed to such other party at its address indicated below, or to such other address as the addressee shall have last furnished in writing to the addressor and (except as otherwise provided in this Agreement) shall be effective upon receipt by the addressee.

If to John Hancock: John Hancock Life Insurance Company
200 Clarendon Street, T-57
Boston, MA 02117
Attention: Bond & Corporate Finance Group
Telephone: 617-572-9624
Fax: 617-572-1628

copy to: John Hancock Life Insurance Company
200 Clarendon Street, T-50
Boston, MA 02117
Attention: Investment Law Division
Telephone: 617-572-9205
Fax: 617-572-9268

and, if it relates to making or not making a royalty payment or Milestone Payment hereunder,

copy to: John Hancock Life Insurance Company
200 Clarendon Street
Boston, MA 02117
Attention: Manager, Investment Accounting Division, B-3
Fax: 617-572-0628

If to Abbott: Abbott Laboratories
Dept. 309, Bldg. AP30
200 Abbott Park Road
Abbott Park, IL 60064-3537
Attention: President, Pharmaceutical Products Division
Telephone: 847-938-6863
Fax: 847-938-5383

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copy to: General Counsel
 Abbott Laboratories
 Dept. 364, Bldg. AP6D
 100 Abbott Park Road
 Abbott Park, IL 60064-6020
 Telephone: 847-937-8905
 Fax: 847-938-6277

16.2 Applicable Law. The Agreement shall be governed by and construed in accordance with the internal laws of the State of Illinois. With respect to any action hereunder, Abbott, to the extent that it may lawfully do so, hereby consents to service of process, and to be sued, in the Commonwealth of Massachusetts and consents to the exclusive jurisdiction of the courts of the Commonwealth of Massachusetts and the United States District Court for the District of Massachusetts, as well as to the jurisdiction of all courts to which an appeal may be taken from such courts, for the purpose of any suit, action or other proceeding arising out of any of its obligations hereunder or thereunder or with respect to the transactions contemplated hereby or thereby, and expressly waives any and all objections it may have as to venue in any such courts. Abbott further agrees that a summons and complaint commencing an action or proceeding in any of such courts shall be properly served and shall confer personal jurisdiction if served personally or by certified mail to it at its address for notices as provided in this Agreement or as otherwise provided under the laws of the Commonwealth of Massachusetts. THE PARTIES EACH IRREVOCABLY WAIVE ALL RIGHT TO A TRIAL BY JURY IN ANY SUIT, ACTION OR OTHER PROCEEDING INSTITUTED BY OR AGAINST IT IN RESPECT OF ITS OBLIGATIONS HEREUNDER OR THEREUNDER OR THE TRANSACTIONS CONTEMPLATED HEREBY OR THEREBY.

16.3 Entire Agreement. This Agreement contains the entire understanding of the parties with respect to the subject matter hereof. All express or implied agreements and understandings, either oral or written, with respect to the subject matter hereof heretofore made are expressly merged in and made a part of this Agreement. This Agreement may be amended, or any term hereof modified, only by a written instrument duly executed by both parties hereto.

16.4 Headings. The captions to the several Articles and Sections hereof are not a part of this Agreement, but are merely guides or labels to assist in locating and reading the several Articles and Sections hereof.

16.5 Independent Contractors. It is expressly agreed that John Hancock and Abbott shall be independent contractor and that the relationship between the two parties shall not constitute a partnership, joint venture or agency. Neither John Hancock nor Abbott shall have the authority to make any statements, representations or commitments of any kind, or to take any action, which shall be binding on the other, without the prior written consent of the other party to do so.

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16.6 Performance By Affiliates, Licensees and Subcontractors. The parties recognize that Abbott may carry out certain obligations under this Agreement through performance by its Affiliates, Licensees and Subcontractors (but in no event shall that relieve Abbott of any of its obligations hereunder). Abbott guarantees that the activities of its Affiliates, Licensees and Subcontractors under this Agreement shall comply with this Agreement.

16.7 Dispute Resolution. The parties shall attempt to amicably resolve disputes arising between them regarding the validity, construction, enforceability or performance of the terms of this Agreement, and any differences or disputes in the interpretation of the rights, obligations, liabilities and/or remedies hereunder, which have been identified in a written notice from one party to the other, by good faith settlement discussions between the President of Abbott's Pharmaceutical Products Division and the Managing Director of John Hancock or his designee. The parties agree that, prior to filing any lawsuit regarding any dispute that arises in connection with this Agreement (with the exception of any action demanding a preliminary injunction), such representatives shall meet and attempt to amicably resolve such dispute within thirty (30) days after the receipt of such written notice.

16.8 Waiver. The waiver by either party hereto of any right hereunder or the failure to perform or of a breach by the other party shall not be deemed a waiver of any other right hereunder or of any other breach or failure by said other party whether of a similar nature or otherwise.

16.9 Counterparts. This Agreement may be executed in two or more counterparts, each of which shall be deemed an original, but all of which together shall constitute one and the same instrument.

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IN WITNESS WHEREOF, the parties have executed this Agreement as of the date first set forth above.

JOHN HANCOCK LIFE
INSURANCE COMPANY

ABBOTT LABORATORIES

By: _____

By: _____

Name: _____

Name: _____

Title: _____

Title: _____

Date: _____

Date: _____

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EXHIBIT 1.6

FIRST ANNUAL RESEARCH PLAN - FIRST PROGRAM YEAR

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EXHIBIT 1.17

EISAI TERRITORY

1. Bhutan
2. Brunei
3. Cambodia
4. People's Republic of China
5. Republic of China (Taiwan)
6. India
7. Indonesia
8. Japan
9. Democratic People's Republic of Korea (North Korea)
10. Republic of Korea
11. Laos
12. Macao
13. Malaysia
14. Mongolia
15. Myanmar
16. Nepal
17. Pakistan
18. Papua New Guinea
19. Philippines
20. Singapore
21. Sri Lanka
22. Thailand
23. Vietnam
24. Italy, co-exclusive rights with Abbott, to be determined unless Abbott exercises its rights under the terms of the Eisai Agreement to take an exclusive right to Italy.

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EXHIBIT 1.40

PROGRAM COMPOUNDS

<u>In-License Agreement</u>	<u>Program Compound</u>	<u>Development Phase</u>
	ABT-627 (Endothelin antagonist)	phase III
Taisho	ABT-773 (Ketolide antibiotic)	phase III
	ABT-594 (Cholinergic channel modulator)	late phase II
Wakunaga	ABT-492 (Quinolone antibiotic)	phase I
Eisai	ABT-751 (Antimitotic)	phase I
	ABT-510 (Thrombospondin peptide)	phase I
<u>Preclinical Programs:</u>		
FTI Program		late preclinical
ED Program		late preclinical
MMPI Program	ABT-518 (Matrix metalloproteinase inhibitor)	phase I

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EXHIBIT 1.43

EXAMPLE OF PROGRAM RELATED COSTS FOR ONE PROGRAM COMPOUND

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EXHIBIT 6.3

CURRENT STAGE OF CLINICAL DEVELOPMENT FOR EACH PROGRAM COMPOUND

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EXHIBIT 9.2

PAYMENT INSTRUCTIONS

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Exhibit 12.2(d)

Further Information Regarding Program Compounds

COMPOUND	CHEMICAL NAME	CURRENT STAGE OF DEVELOPMENT
ABT-627 Endothelin antagonist	(2R,3R,4S)-4-(1,3-benzodioxol-5-yl)-1-[2-(dibutylamino)-2-oxoethyl]-2-(4-methoxyphenyl)-3-pyrrolidinecarboxylic acid	Phase III
ABT-773 Ketolide antibiotic	(3aS,4R,7R,9R,10R,11S,13R,15R,15aR)-4-ethyl-3a,7,9,11,13,15-hexamethyl-2,6,8,14-tetraoxo-11-[[[(2E)-3-(3-quinolinyl)-2-propenyl]oxy]tetradecahydro-2H-oxacyclotetradecino[4,3-d][1,3]oxazol-10-yl 3,4,6-trideoxy-3-(dimethylamino)-D-D-xyl-hexopyranoside	Phase III
ABT-594 Cholinergic channel modulator	(2R)-azetidylmethyl 6-chloro-3-pyridinyl ether hydrochloride	Phase II
ABT-492 Quinoline Antibiotic	potassium 1-(6-amino-3,5-difluoro-2-pyridinyl)-8-chloro-6-fluoro-7-(3-hydroxy-1-azetidyl)-4-oxo-1,4-dihydro-3-quinolinecarboxylate	Phase I
ABT-518 Matrix metalloproteinase inhibitor	(1S)-1-[(4S)-2,2-dimethyl-1,3-dioxolan-4-yl]-2-[(4-{4-(trifluoromethoxy)phenoxy}phenyl)sulfonyl]ethyl(hydroxy)formamide	Phase I
ABT-751 Antimitotic	N-[2-(4-hydroxyanilino)-3-pyridinyl]-4-methoxybenzenesulfonamide	Phase I
Farnesyltransferase inhibitor	N.A.	Pre-Clinical Program
Dopamine Receptor Agonist for Erectile Dysfunction	N.A.	Pre-Clinical Program

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EXHIBIT 12.2(c)

Certain Patent InformationABT-627ABT-627

COUNTRY	FILING DATE	PATENT NUMBER	STATUS	EXP. DATE
Australia	08/04/1995	711832	Issued	08/04/2015
Brazil	02/12/1997		Pending	
Canada	08/04/1995		Pending	
EP*	08/04/1995		Pending	
Hong Kong	07/15/1998		Pending	
Israel	08/10/1995		Pending	
Japan	08/04/1995		Pending	
Korea	08/04/1995		Pending	
Mexico	08/04/1995		Pending	
Philippines	08/17/1995		Pending	
USA	05/30/1995	5,767,144	Issued	06/16/2015

*Europe: Austria, Belgium, Great Britain, Denmark, France, Germany, Greece, Ireland, Italy, Luxembourg, Netherlands, Portugal, Spain, Sweden, Switzerland

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Exhibit 12.2(e) (Cont'd)

ABT-773
(Subject to Taisho Agreement)

COUNTRY	FILING DATE	PATENT NUMBER	STATUS	EXP. DATE
Argentina	09/03/1997		Pending	
Australia	09/02/1997		Pending	
Brazil	05/13/1997		Pending	
Brazil	09/02/1997		Pending	
Bulgaria	09/02/1997		Pending	
Belarus	09/02/1997		Pending	
China	09/02/1997		Pending	
Chile	09/04/1997		Pending	
Canada	09/02/1997		Pending	
Columbia	09/02/1997		Pending	
Czech Republic	09/02/1997		Pending	
EP*	09/02/1997		Pending	
Guatemala	08/29/1997		Pending	
Hong Kong	09/02/1997		Pending	
Croatia	09/03/1997		Pending	
Hungary	09/02/1997		Pending	
Indonesia	09/04/1997		Pending	
India	Pending-Black Box		Pending	
Israel	09/02/1997		Pending	
Japan	09/02/1997		Pending	
Korea	09/02/1997		Pending	
Mexico	09/02/1997		Pending	
Malaysia	08/26/1997		Pending	
Norway	09/02/1997		Pending	

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Exhibit 12.2(e) (cont'd)

ABT-773 (cont'd)
(Subject to Taisho Agreement)

COUNTRY	FILING DATE	PATENT NUMBER	STATUS	EXP. DATE
New Zealand	09/02/1997		Pending	
Philippines	09/02/1997		Pending	
Pakistan	10/13/1997	136010	Issued	10/13/2013
Poland	09/02/1997		Pending	
Romania	09/02/1997		Pending	
Russia	09/02/1997		Pending	
South Africa	08/20/1997	97/7474	Issued	08/20/2017
Singapore	09/02/1997		Pending	
Slovak Republic	09/02/1997		Pending	
Slovenia	09/02/1997	20023	Issued	09/02/2017
Saudi Arabia	02/10/1998		Pending	
Thailand	09/03/1997		Pending	
Turkey	09/02/1997	TR 01127 B	Issued	09/02/2017
Taiwan	09/05/1997		Pending	
UA	09/02/1997		Pending	
USA	07/03/1997	5,866,549	Issued	09/04/2016
Yugoslavia	09/02/1997		Pending	

*Europe: Austria, Belgium, Great Britain, Denmark, France, Germany, Greece, Ireland, Italy, Luxembourg, Netherlands, Portugal, Spain, Sweden, Switzerland

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EXHIBIT 12.2(c) (Cont'd)

ABT-594

COUNTRY	FILING DATE	PATENT NUMBER	STATUS	EXP. DATE
Australia	10/08/1993	687017	Issued	10/18/2013
Brazil	04/30/1997		Pending	
Canada	10/08/1993		Pending	
EP*	10/08/1993		Pending	
Hong Kong	12/10/1998		Pending	
Israel	10/04/1993	107184	Issued	10/04/2013
Japan	10/08/1993	3098035	Issued	10/08/2013
Korea	10/08/1993		Pending	
Mexico	10/08/1993		Pending	
Philippines	10/07/1993		Pending	
USA	06/07/1995	5,948,793	Issued	09/07/2016

*Europe: Austria, Belgium, Great Britain, Denmark, France, Germany, Greece, Ireland, Italy, Luxembourg, Netherlands, Portugal, Spain, Sweden, Switzerland

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EXHIBIT 12.2(e) (Cont'd)

ABT-492

(Subject to Wakunaga Agreement)

COUNTRY	FILING DATE	PATENT NUMBER	STATUS	EXP. DATE
Australia	09/24/1999		Pending	
Brazil	11/29/1999		Pending	
Canada	12/06/1999		Pending	
China	10/22/1999	1258674A	Issued	
Hong Kong				
EP*	12/08/1999	0992501	Issued	
Hungary	11/23/1999	9904389	Issued	
Republic of Korea	08/29/2000			
Mexico	10/14/1999		Pending	
Russian Federation	05/26/2000	---	Pending	
USA	06/10/1999		Pending	
Japan	10/06/1999	2000-136191	Issued	

*Europe: Austria, Belgium, Switzerland, Germany, Denmark, Spain, Finland, France, Great Britain, Greece, Ireland, Italy, Luxembourg, Monaco, Netherlands, Portugal, Sweden

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EXHIBIT 12.2(e) (Cont'd)

ABT-510

COUNTRY	FILING DATE	PATENT NUMBER	STATUS	EXP. DATE
Argentina	05/21/1999		Pending	
Australia	05/21/1999		Filing in Process	
Brazil	05/21/1999		Filing in Process	
Bulgaria	05/21/1999		Filing in Process	
China	05/21/1999		Filing in Process	
Chile	05/20/1999		Pending	
Canada	05/21/1999		Filing in Process	
Columbia	05/21/1999		Pending	
Czech Republic	05/21/1999		Filing in Process	
EP*	05/21/1999		Filing in Process	
Hong Kong	05/21/1999		Filing in Process	
Hungary	05/21/1999		Pending	
India	05/21/1999		Filing in Process	
Israel	05/21/1999		Filing in Process	
Japan	05/21/1999		Filing in Process	
Korea	05/21/1999		Filing in Process	
Mexico	05/21/1999		Filing in Process	
Norway	05/21/1999		Filing in Process	
New Zealand	05/21/1999		Filing in Process	
Philippines	05/21/1999		Pending	
Poland	05/21/1999		Filing in Process	
South Africa	05/21/1999		Filing in Process	
Slovak Republic	05/21/1999		Filing in Process	
Saudi Arabia	05/21/1999		Pending	
Turkey	05/21/1999		Filing in Process	
Taiwan	05/21/1999		Pending	
USA	05/21/1999		Pending	

*Europe: Austria, Belgium, Great Britain, Cyprus, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, Netherlands, Portugal, Romania, Slovenia, Spain, Sweden, Switzerland

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EXHIBIT 12.2(e) (Cont'd)

ABT-518

COUNTRY	FILING DATE	PATENT NUMBER	STATUS	EXP. DATE
Argentina	07/30/1998		Pending	
Australia	07/27/1998		Pending	
Brazil	07/27/1998		Pending	
Bulgaria	07/27/1998		Pending	
China	07/27/1998		Pending	
Chile	07/17/1998		Pending	
Canada	07/27/1998		Pending	
Columbia	07/29/1998		Pending	
Czech Republic	07/27/1998		Pending	
EP*	07/27/1998		Pending	
Hungary	07/27/1998		Pending	
Israel	07/27/1998		Pending	
Japan	07/27/1998		Pending	
Korea	07/27/1998		Pending	
Mexico	07/27/1998		Pending	
Norway	07/27/1998		Pending	
New Zealand	07/27/1998		Pending	
Philippines	07/27/1998		Pending	
Poland	07/27/1998		Pending	
South Africa	07/30/1998	98/6828	Issued	07/30/2018
Slovak Republic	07/27/1998		Pending	
Saudi Arabia	12/15/1998		Pending	
Turkey	07/27/1998		Pending	
Taiwan	07/31/1998		Pending	
USA	08/05/1998		Pending	

*Europe: Austria, Belgium, Great Britain, Denmark, France, Germany, Greece, Ireland, Italy, Luxembourg, Netherlands, Portugal, Spain, Sweden, Switzerland

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EXHIBIT 12.2(e) (Cont'd)

ABT-751

(Subject to Eisai Agreement)

COUNTRY	FILING DATE	PATENT NUMBER	STATUS	EXP. DATE
USA	08/08/1991	5,250,549 5,292,758	Issued	08/08/2011 08/08/2011
Germany	08/07/1991	EP 472,053	Issued	08/07/2011
United Kingdom	08/07/1991	EP 472,053	Issued	08/07/2011
France	08/07/1991	EP 472,053	Issued	08/07/2011

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EXHIBIT 12.2(f)

COMMUNICATIONS

With respect to ABT-594, Abbott has received the following communications:

- ♦ Correspondence from Sibia Neurosciences, 505 Coast Blvd. South, Suite 300, La Jolla, CA 92037 (Sibia was acquired by Merck & Co., Inc. in August, 1999) including, most recently, a letter dated March 13, 1998.
- ♦ Correspondence from ICT Pharmaceuticals c/o Stadheim and Grear, Ltd., 400 North Michigan Ave., Chicago, IL 60611 including, most recently, a letter dated September 14, 2000.

The Sibia and ICT correspondence each refer to their patents on research tools.

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EXHIBIT 12.2(i)

Compound Reports

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Blewitt 11/17/2006 Deposition Exhibit 24

D's Exhibit

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3/9

RESEARCH FUNDING AGREEMENT

by and between

ABBOTT LABORATORIES

and

JOHN HANCOCK LIFE INSURANCE COMPANY,

JOHN HANCOCK VARIABLE LIFE INSURANCE COMPANY,

AND

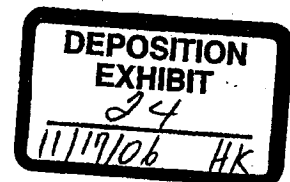
and

l.c.

INVESTORS PARTNER LIFE INSURANCE COMPANY

dated as of

March __, 2001



(C)

RESEARCH FUNDING AGREEMENT

This Research Funding Agreement is made as of March 1, 2001, by and between Abbott Laboratories, an Illinois corporation ("Abbott"), with its principal offices at 100 Abbott Park Road, Abbott Park, Illinois 60064-6049, and John Hancock Life Insurance Company, a Massachusetts corporation, and John Hancock Variable Life Insurance Company, a Massachusetts corporation, and Investors Partner Life Insurance Company (other Hancock purchasers?) ("John, a Delaware corporation (collectively, "John Hancock"), each with its principal offices at 200 Clarendon Street, Boston, Massachusetts 02117.

WITNESSETH

chg. not marked?

WHEREAS, Abbott is a global healthcare company actively engaged in the research and development of human pharmaceutical products;

WHEREAS, Abbott is interested in obtaining additional funding to support such research and development activities with respect to certain pharmaceutical products which are under development; and

WHEREAS, John Hancock is interested in providing such additional funding in exchange for the right to receive future milestone and royalty payments from Abbott.

NOW, THEREFORE, in consideration of the foregoing and the mutual covenants and undertakings contained herein, the parties hereto agree as follows:

ARTICLE I
DEFINITIONS

In addition to the other terms defined elsewhere herein, the following terms shall have the following meanings when used in this Agreement (and any term defined in the singular shall have the same meaning when used in the plural and vice versa, unless stated otherwise):

1.1 "Affiliate" shall mean, with respect to each party, any corporation or other form of business organization, which directly or indirectly owns, controls, is controlled by, or is under common control with, such party. An entity shall be regarded as being in control of another entity if the former entity has the direct or indirect power to order or cause the direction of the policies of the other entity whether (i) through the ownership of more than fifty percent (50%) in the United States, or thirty percent (30%) or more outside the United States, of the outstanding voting securities (or other ownership interest for a business organization other than a corporation) of that entity; or (ii) by contract, statute, regulation or otherwise.

1.2 "Aggregate Carryover Amount" shall have the meaning given in Section 3.3.

1.3 "Aggregate Spending Target" shall mean Six Hundred Eighteen Million Dollars (\$618,000,000).

1.4 "Annual Carryover Amount" shall have the meaning given in Section 3.3.

1.5 "Annual Minimum Spending Target" for each Program Year, shall mean the sum of (i) the Program Payment of John Hancock for such Program Year as specified in Section 3.1, (ii) Fifty Million Dollars (\$50,000,000), and (iii) any Annual Carryover Amount for the prior Program Year pursuant to Section 3.3. With respect to the fifth Program Year, the "Annual Minimum Spending Target" shall mean the Annual Carryover Amount for the prior Program Year pursuant to Section 3.3.

1.6 "Annual Research Plan" shall mean, for the Program Years in the Program Term, a reasonably and consistently detailed statement of the objectives, activities, timetable and budget for the Research Program for every Program Year remaining in the Program Term, it being understood that less detail shall be required for Program Years that are not the current Program Year. The first Annual Research Plan is attached as Exhibit 1.6. "Annual Research Plan" shall mean, for those years occurring after the expiration of the Program Term, a reasonably and

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1.55 "Wakunaga Agreement" shall mean the License Agreement dated December 1, 1999 between Wakunaga Pharmaceutical Co., Ltd. and Abbott related to the Program Compound known as ABT-492.

ARTICLE 2 ANNUAL RESEARCH PROGRAM

2.1 Research Program Term. The Research Program shall be conducted by Abbott during the Program Term, and beyond the Program Term until Abbott either abandons development in accordance with the terms hereof or receives Regulatory Approval for each Program Compound, or some combination thereof.

2.2 Research Plan. The Research Program shall be conducted by Abbott in each Program Year in accordance with the Annual Research Plan for such Program Year. The Annual Research Plan will be provided to John Hancock until Abbott either abandons development in accordance with the terms hereof, or receives Regulatory Approval for, each Program Compound in the U.S. Territory, or some combination thereof. The Annual Research Plan shall be prepared by Abbott and presented to John Hancock at least thirty (30) days prior to the start of each Program Year. The first Annual Research Plan is attached as Exhibit 1.6. Abbott may modify the Annual Research Plan from time to time in order to best meet the objectives of the Research Program. Any such modifications to the Annual Research Plan shall be promptly provided to John Hancock. In addition, Abbott shall provide an Annual Research Plan for each year after the end of the Program Term as long as there is an active research program for any Program Compounds.

2.3 Conduct of Research. Abbott shall use Commercially Reasonable Efforts to conduct the Research Program in good scientific manner and using good laboratory practices, to achieve the objectives of the Research Program efficiently and expeditiously and to comply with all applicable laws and regulations. Notwithstanding anything in this Agreement to the contrary, Abbott does not represent, warrant or guarantee that the Research Program will be successful in whole or in part or result in the registration or commercialization of any pharmaceutical products or that any Products obtaining Regulatory Approval will be a commercial success. 45

2.4 Subcontracting Research. Abbott may subcontract or outsource to Affiliates or third persons (each, a "Subcontractor") any portion of the Annual Research Plan. Consistent with Abbott's past practices, each Subcontractor shall enter into a confidentiality agreement with Abbott and agreements pursuant to which such Subcontractor is required to comply with all applicable laws and regulations, including conducting the Research Program in good scientific manner and using good laboratory practices, with respect to its work on the Research Program. Abbott shall supervise and be responsible under this Agreement for the work of each such Subcontractor on the Research Program and no subcontracting or outsourcing shall relieve Abbott of any of its obligations hereunder.

2.5 Research Reports and Records. Abbott shall, no later than thirty (30) days before the last day of each Program Year, provide John Hancock with a reasonably detailed report setting forth the status of the Research Program and all Program Related Costs expended by Abbott during such Program Year. The Program Related Costs set forth in such report may include good faith estimates with respect to the last three (3) months of the Program Year, provided that the report under this Section 2.5 for the following Program Year contains the actual Program Related Costs for that three (3) month period. Such report shall also contain such other information related thereto as John Hancock may reasonably request from time to time. Abbott shall, and shall cause each Subcontractor to, maintain complete and accurate records, in sufficient detail and in good scientific manner appropriate for patent and regulatory purposes and for purposes of demonstrating compliance with the terms hereof, that fully and properly reflect all work done, results achieved and Program Related Costs expended in performance of the Research Program. The books and records of Abbott and each Subcontractor related to the Research Program, including, without limitation, those related to the expenditure of Program Related Costs, shall be subject to copying, inspection and audit by (and at the expense of) John Hancock at any time and from time to time. Such audit shall occur upon reasonable notice and during normal business hours by an independent auditor selected by John Hancock and reasonably acceptable to Abbott. John Hancock and its independent auditor shall maintain such records and information of Abbott in confidence in accordance with Article 10 and shall not use such records or information except to the extent permitted by this Agreement, including any enforcement of the provisions hereof.

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In the event that such audit reveals any material breach of Abbott's responsibilities hereunder, Abbott shall (i) pay the reasonable fees and expenses charged by such auditor, and (ii) fully and promptly cure such breach.

ARTICLE 3 RESEARCH FUNDING

3.1 John Hancock Program Payments. John Hancock shall make the following installment payments on the applicable payment date (the "Payment Date"), for the applicable Program Year, to Abbott to help support the Research Program (the "Program Payments"):

<u>Payment Date</u>	<u>Amount</u>
December 1, 2001	\$52,000,000
	<u>\$50,000,000</u>
December 1, 2002	\$54,000,000
December 1, 2003	\$55,000,000
	<u>\$58,000,000</u>
December 1, 2004	\$57,000,000
	<u>\$52,000,000</u>

Total \$ 214 0

45 All Program Payments shall be expended by Abbott on Program Related Costs and for no other purpose. If John Hancock has not received at least thirty (30) days prior to the Payment Date both (i) the Annual Research Plan for such year and (ii) the report described in Section 2.5 for the previous Program Year, then John Hancock's obligation to make the Program Payment due on such Payment Date shall be suspended until thirty (30) days have elapsed from the date of John Hancock's receipt of both such Annual Research Plan and report.

and for the next succeeding year
3.2 Abbott Funding Obligation. Abbott shall spend on Program Related Costs: (i) during each Program Year, at least the Annual Minimum Spending Target for such Program Year and (ii) at least the Aggregate Minimum Spending Target during the Program Term. John Hancock's sole and exclusive remedies for Abbott's failure to fund the Research Program in accordance with this Section 3.2 (but not for any other breach of Abbott's other obligations hereunder) are set forth in Sections 3.3; and 3.4 and 7.2.

3.3 Carryover Provisions. Abbott shall be permitted to change its funding obligations under Section 3.2 only as follows:

- (a) If in any Program Year Abbott spends on Program Related Costs, the full amount of the Program Payment provided by John Hancock for such Program Year, but does not spend the full amount of the Annual Minimum Spending Target for such Program Year (including any Annual Carryover Amounts from any prior Program Years), Abbott will spend on Program Related Costs the difference between its expenditure on Program Related Costs for such Program Year and the Annual Minimum Spending Target for such Program Year (the "Annual Carryover Amount") in the subsequent Program Year. John Hancock's obligation to make any Program Payment for such subsequent Program Year, if any, pursuant to Section 3.1, shall be deferred until the time that Abbott has spent and notifies John Hancock that it has spent the Annual Carryover Amount in such subsequent Program Year; and
- (b) If Abbott does not expend on Program Related Costs the full amount of the Aggregate Spending Target during the Program Term, Abbott will expend the difference between its expenditures for Program Related Costs during the Program Term and the Aggregate Spending Target (the "Aggregate Carryover Amount") on Program Related Costs during the subsequent year commencing immediately after the end of the Program Term. If Abbott does not spend the Aggregate Carryover Amount on Program Related Costs during such subsequent year, Abbott will pay to John Hancock one-third of the Aggregate Carryover Amount that remains unspent by Abbott, within thirty (30) days after the end of such subsequent year.

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3.4 Termination of John Hancock's Program Payment Obligation. If Abbott: (i) abandons development of all Preclinical Programs and Program Compounds in any Program Year during the Program Term (it being understood that such abandonment need not occur entirely in one Program Year); (ii) does not expend on Program Related Costs during any Program Year the full amount of the Program Payment made by John Hancock for such Program Year; (iii) does not reasonably demonstrate in its Annual Research Plan, its intent and reasonable expectation to expend on Program Related Costs during the next Program Year an amount in excess of the Program Payment to be provided by John Hancock for such year; or (iv) does not reasonably demonstrate in its Annual Research Plan its intent and reasonable expectation to expend on Program Related Costs during the Program Term an amount in excess of the Aggregate Spending Target, John Hancock's obligation to make any remaining Program Payments pursuant to Section 3.1 shall terminate. In addition, in the case of either (i) or (ii) above, Abbott shall refund (not later than the 10th day following such event) pay to John Hancock ~~the (x) amount, if any, by which the Program Payment made by John Hancock for such year (in the case of (i) above meaning the Program Year in which all Preclinical Programs and Program Compounds were finally abandoned), if any, exceeds one-half of the Program Related Costs actually spent by Abbott during that Program Year and (y) such additional amount that after giving effect to the payments referred to in this sentence causes the Program Related Costs to have been funded one-third (1/3) by John Hancock and two-thirds (2/3) by Abbott.~~ ⁽⁵⁾

3.5 Hancock Funding Obligation. John Hancock's entire obligation hereunder shall be limited to providing the Program Payments set forth in Section 3.1. Abbott shall be solely responsible for funding all Program Related Costs in excess of the Program Payments from John Hancock.

ARTICLE 4

PRODUCT RESEARCH AND DEVELOPMENT

4.1 Commercially Reasonable Efforts. Abbott shall be solely responsible for the clinical development, government approval, manufacturing, marketing, sales and distribution of Products. Abbott will use, and will cause each of its Affiliates and Licensees to use, Commercially Reasonable Efforts to pursue the clinical development, government approval, manufacturing, marketing, sales and distribution of Products throughout the Territory. The obligations of Abbott, its Affiliates and Licensees with respect to any Product under this Article 4 are expressly conditioned upon the safety, efficacy and commercial feasibility of each Product, consistent with using Commercially Reasonable Efforts, but no license, assignment or other transfer of rights by Abbott will modify or reduce Abbott's obligations hereunder (except as set forth in Article 14). It is the parties' expectation that under normal circumstances Abbott will file for Regulatory Approval with respect to each Product in Europe within two (2) years from the date of the NDA filing for such Product in the U.S. Territory and in Japan within five (5) years from such NDA filing date; provided, however, that these time frames may be extended or otherwise altered based upon unforeseen circumstances that legitimately impact such regulatory filings in such foreign jurisdictions.

4.2 Marketing and Sale Responsibility. Without limiting the generality of Section 4.1, within six (6) months of obtaining Regulatory Approval for a Product in a given country, Abbott, its Affiliates or Licensees shall commence to market and sell such Product in such country. Abbott's obligation to market and sell a Product shall not apply to a Product in any country if Abbott has not commenced or has ceased marketing and selling such Product in such country ~~substantially/primarily substantially~~ on account of adverse business or financial conditions caused by the regulatory authorities or other governmental authorities of such country (including not commencing marketing and selling in a country where the regulatory authorities have price or reimbursement approval and the price or reimbursement approval or that proposed by the regulatory authorities or government authorities is unacceptable to Abbott) which causes the marketing and sale of such Product in such country to be contrary to the financial best interests of John Hancock and Abbott; provided, however, that Abbott, its Affiliates or Licensees shall commence or resume marketing and sale of such Product in such country as soon as reasonably practical after such adverse business or financial conditions cease to exist.

4.3 Failure of Program Compound to Progress.

- (a) Preclinical Programs: ED Program, FTI Program and MMPI Program. With respect to any Program Compound resulting from a Preclinical Program that Abbott ceases to

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12.8 Procedure. If John Hancock or any of its Affiliates, agents, directors or employees (each, an "Indemnitee") intends to claim indemnification under this Article 12, it shall promptly notify Abbott (the "Indemnitor") of any Loss or action in respect of which the Indemnitee intends to claim such indemnification, and the Indemnitor shall have the right to participate in, and, to the extent the Indemnitor so desires, to assume the defense thereof with counsel selected by the Indemnitor; provided, however, that an Indemnitee shall have the right to retain its own counsel, with the fees and expenses of such counsel to be paid by the Indemnitor, if representation of such Indemnitee by the counsel retained by the Indemnitor would be inappropriate due to actual or potential differing interests between such Indemnitee and any other party represented by such counsel in such proceedings. The indemnity obligation in this Article 12 shall not apply to amounts paid in settlement of any loss, claim, damage, liability or action if such settlement is effected without the consent of the Indemnitor, which consent shall not be withheld unreasonably or delayed. The failure to deliver notice to the Indemnitor within a reasonable time after the commencement of any such action, if materially prejudicial to its ability to defend such action, shall relieve the Indemnitor of any liability to the Indemnitee under this Article 12 only to the extent arising from the tardiness or absence of such notice, but the omission so to deliver notice to the Indemnitor will not relieve it of any liability that it may have to any Indemnitee otherwise than under this Article 12. The Indemnitee shall cooperate fully with the Indemnitor and its legal representatives in the investigation of any action, claim or liability covered by indemnification under this Article 12, at the expense of the Indemnitor.

12.9 Insurance. Abbott shall at its expense maintain, through self-insurance or otherwise, product liability insurance with respect to the development, manufacture, sale and use of Products and Program Compounds in such amounts and on such terms as Abbott customarily maintains with respect to its other similar products. Abbott shall maintain such insurance for so long as it continues to develop, manufacture or sell any Products or Program Compounds, and thereafter for so long as Abbott customarily currently maintains such insurance.

12.10 Acknowledgment. Abbott and John Hancock acknowledge that Abbott has not delivered or disclosed the contents of any of the In-License Agreements to John Hancock.

any of its rights (but not its obligation to make payments under Section 3.1) in whole or in part without Abbott's consent (and following any such assignment all references to John

Neither party shall be held liable or responsible to the other party nor be deemed to have defaulted under or breached this Agreement for failure or delay in fulfilling or performing any term of this Agreement when such failure or delay is caused by or results from causes beyond the reasonable control of the affected party including but not limited to fire, floods, embargoes, war, acts of war (whether war be declared or not), insurrections, riots, civil commotions, strikes, lockouts or other labor disturbances, acts of God or acts, omission or delays in acting by any governmental authority; provided that such affected party shall provide the other party with prompt notice of the circumstances surrounding such a material failure or delay, after which the parties will amend this Agreement upon terms and conditions that are mutually agreeable to equitably account to the party that does not so fail or delay.

ARTICLE 14 ASSIGNMENT

[Under Discussion] Except as expressly provided hereunder, this Agreement may not be assigned or otherwise transferred, nor may any right or obligations hereunder be assigned or transferred by either party without the consent of the other party; and, in addition, both parties acknowledge and agree that the obligations of Abbott hereunder are personal to Abbott and that Abbott is uniquely qualified to perform them; provided, however, that either party shall be obligated to assign this Agreement and its rights and obligations hereunder in connection with the transfer or sale of all or substantially all of its business, or in the event of its merger or consolidation or change in control or similar transaction and in such event such party shall cause its successor or transferee in such transaction to assume all of the obligations of such party. Any permitted assignee shall assume all obligations of its assignor under this Agreement. Notwithstanding the foregoing, John Hancock shall have the right to assign its right to payments in whole or in part and no other rights to any other person without Abbott's consent. John Hancock shall not have any right to assign any of its obligations to any third party. With respect to any assignment of payments, the following shall apply: (i) any assignee of such right to payments must be a bank,

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(but in any event not longer than 4 years from the date hereof)

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insurance company or other institutional investor; (ii) there shall be no greater than five (5) assignees, (iii) if any such assignee is located outside the United States John Hancock shall notify Abbott at least sixty (60) days in advance, (iv) if any claim arises with respect to Abbott's failure to make payments, then during the term of the Research Program, any such claim must be brought by John Hancock, and not an assignee. In soliciting potential assignees for such right to payments, John Hancock shall not disclose any Confidential Information hereunder to more than ten (10) potential assignees. Any potential assignee to whom John Hancock discloses Confidential Information must have executed a confidentiality agreement no less stringent than that contained herein.

Art. (10 Level)

ARTICLE 15 SEVERABILITY

Each party hereby agrees that it does not intend its execution and delivery hereof or its performance hereunder to violate any public policy, statutory or common laws, rules, regulations, treaty or decision of any government agency or executive body thereof of any country or community or association of countries. If and to the extent any term or provision of this Agreement is held to be invalid, illegal or unenforceable by a court or other governmental authority of competent jurisdiction, such invalidity, illegality or unenforceability shall not affect any other term or provision of this Agreement, which shall remain in full force and effect. The holding of a term or provision to be invalid, illegal or unenforceable in a jurisdiction shall not have any effect on the application of the term or provision in any other jurisdiction.

ARTICLE 16 MISCELLANEOUS

16.1 Notices. Any consent, notice or report required or permitted to be given or made under this Agreement by one of the parties hereto to the other shall be in writing, delivered personally or by facsimile (and promptly confirmed by personal delivery, U.S. first class mail or courier), U.S. first class mail or courier, postage prepared (where applicable), addressed to such other party at its address indicated below, or to such other address as the addressee shall have last furnished in writing to the addressor and (except as otherwise provided in this Agreement) shall be effective upon receipt by the addressee.

If to John Hancock: John Hancock Life Insurance Company
200 Clarendon Street, T-57
Boston, MA 02117
Attention: Bond & Corporate Finance Group
Telephone: 617-572-9624
Fax: 617-572-1628

copy to: John Hancock Life Insurance Company
200 Clarendon Street, T-50
Boston, MA 02117
Attention: Investment Law Division
Telephone: 617-572-9205
Fax: 617-572-9268

and, if it relates to making or not making a royalty payment or Milestone Payment hereunder,

copy to: John Hancock Life Insurance Company
200 Clarendon Street
Boston, MA 02117
Attention: Manager, Investment Accounting Division, B-3
Fax: 617-572-0628

-25-

IN WITNESS WHEREOF, the parties have executed this Agreement as of the date first set forth above.

JOHN HANCOCK LIFE
INSURANCE COMPANY

ABBOTT LABORATORIES

By: _____
Name: _____
Title: _____
Date: _____

By: _____
Name: _____
Title: _____
Date: _____

JOHN HANCOCK VARIABLE
LIFE INSURANCE COMPANY

By: _____
Name: _____
Title: _____
Date: _____

INVESTOR PARTNER LIFE INSURANCE
COMPANY

By: _____
Name: _____
Title: _____
Date: _____

John Hancock Financial Services, Inc.

Bond and Corporate Finance Group

John Hancock Place
Post Office Box 111
Boston, Massachusetts 02117
(617) 572-9624
Fax: (617) 572-1628
E-mail: sblewitt@jhancock.com

Stephen J. Blewitt
Senior Managing Director



April 1, 2005

BY FAX AND U.S. MAIL

Mr. James L. Tyree
Vice President
Global Licensing and New Business Development
ABBOTT LABORATORIES
200 Abbott Park Road
Abbott Park, IL 60064-6189

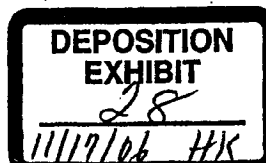
Re: Research Funding Agreement by and between Abbott Laboratories ("Abbott") and John Hancock Life Insurance Company, John Hancock Variable Life Insurance Company, and Investors Partner Life Insurance Company (collectively, "John Hancock"), dated as of March 13, 2001 (the "Agreement")

Dear Jim:

I write pursuant to Section 16.7 of the Research Funding Agreement by and between Abbott Laboratories and John Hancock Life Insurance Company, John Hancock Variable Life Insurance Company and Investors Partner Life Insurance Company (now known as "ManuLife Insurance Company"), dated as of March 13, 2001 (the "Agreement") to identify certain further disputes that have arisen between John Hancock Life Insurance Company, John Hancock Variable Life Insurance Company and ManuLife Insurance Company on the one hand (collectively, "John Hancock"), and Abbott Laboratories ("Abbott") on the other, with respect to the Agreement. The further disputes of which John Hancock currently is aware are as follows:

- (a) Abbott unreasonably and unjustifiably has hindered, delayed and obstructed John Hancock's attempts to audit Abbott's compliance with the terms of the Agreement as expressly permitted under Section 2.5 of the Agreement, and accordingly has failed to demonstrate that it actually has made expenditures on Program Related Costs as represented in its written reports to John Hancock;
- (b) Abbott misrepresented the development status of ABT-518 to John Hancock prior to, and at the time of, the execution of the Agreement;
- (c) Abbott misrepresented the development status of ABT-594 to John Hancock prior to, and at the time of, the execution of the Agreement;

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JHI 011911

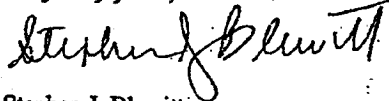


- (d) Abbott has misrepresented its "intended and reasonably expected" expenditures on Program Related Costs in the Annual Research Plans that it has provided to John Hancock;
- (e) Abbott unreasonably and unjustifiably has failed to use Commercially Reasonable Efforts to develop the Program Compounds;
- (f) Abbott unreasonably and unjustifiably has refused to provide John Hancock with a copy of its modified 2005 ARP; and
- (g) Abbott unreasonably and unjustifiably has failed to out-license or divest itself of certain Ceased Compounds, including ABT-492, ABT-518 and ABT-594, "as soon as is practicable" as required under Section 4.3(d) of the Agreement.

Please be aware that, as a result of the foregoing violations by Abbott of its representations, warranties and obligations under the Agreement, which John Hancock believes may have been committed willfully and wantonly, Hancock has sustained Losses for which it intends to claim indemnification from Abbott under, *inter alia*, Sections 1.27, 12.6 and 12.8 of the Agreement.

John Hancock is prepared to participate in an executive meeting within thirty (30) days of this notice for the purpose of attempting to resolve the above-referenced disputes in accordance with the requirements of Section 16.7. I invite you to contact me at your earliest convenience to schedule such a meeting.

Very truly yours,



Stephen J. Blewitt

cc: President - Abbott Pharmaceutical Products Division (by U.S. Mail)
General Counsel - Abbott Laboratories (by U.S. Mail)
Lawrence R. Desideri, Esq. (by fax)
Peter E. Gelhaar, Esq. (by fax)
Brian A. Davis, Esq. (by fax)

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JHH 011912

P. 1

* * * COMMUNICATION RESULT REPORT (APR. 1.2005 2:53PM) * * *

TTI JOHN HANCOCK

FILE MODE	OPTION	ADDRESS (GROUP)	RESULT	PAGE
'67 MEMORY TX		29268	OK	P. 3/3

REASON FOR ERROR

E-1) HANG UP OR LINE FAIL
E-3) NO ANSWER

E-2) BUSY
E-4) NO FACSIMILE CONNECTION

BOND & CORPORATE FINANCE GROUP, T-57
200 CLARENDON STREET
BOSTON, MA 02117
FAX: 617-572-1628/6454

**JOHN HANCOCK
FINANCIAL SERVICES**

Fax

CONFIDENTIAL

JHH 011913

To: Pam Memishian From: Steve Blewitt
Fax: 29268 Phone: 617-572-9624
Phone: _____ # of Pages: 3 (including cover)
Date: 4/1/05 CC: _____

☐ Urgent ☐ For Review ☐ Please Comment ☐ Please Reply ☐ Please Recycle

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P. 1

* * * COMMUNICATION RESULT REPORT (APR. 1.2005 2:51PM) * * *

FILE MODE	OPTION	ADDRESS (GROUP)	TTI JOHN HANCOCK RESULT	PAGE
56 MEMORY TX		21565	OK	P. 3/3

REASON FOR ERROR
 E-1) HANG UP OR LINE FAIL
 E-3) NO ANSWER

E-2) BUSY
 E-4) NO FACSIMILE CONNECTION

BOND & CORPORATE FINANCE GROUP, T-57
 200 CLARENDON STREET
 BOSTON, MA 02117
 FAX: 617-572-1828/6454

**JOHN HANCOCK
 FINANCIAL SERVICES**

Fax

CONFIDENTIAL
 JHH 011914

To: Karen Matan From: Steve Blewett
 Fax: 21565 Phone: 617-572-9624
 Phone: _____ # of Pages: 3 (including cover)
 Date: 4/1/05 CC: _____
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P. 1

* * * COMMUNICATION RESULT REPORT (APR. 1.2005 3:49PM) * * *

FILE MODE	OPTION	ADDRESS (GROUP)	TTI JOHN HANCOCK RESULT	PAGE
959 MEMORY TX		95172484000	OK	P. 3/3

REASON FOR ERROR

E-1) HANG UP OR LINE FAIL
E-3) NO ANSWER

E-2) BUSY
E-4) NO FACSIMILE CONNECTION

BOND & CORPORATE FINANCE GROUP, T-57
200 CLARENDON STREET
BOSTON, MA 02117
FAX: 617-572-1628/6454

**JOHN HANCOCK
FINANCIAL SERVICES**

Fax

CONFIDENTIAL
JHII 011915

To: Brian Davis From: Steve Hewitt
Fax: 617-248-4600 Phone: 617-572-4624
Phone: _____ # of Pages: 3 (including cover)
Date: 4/1/05 CC: _____

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• Comments: This facsimile communication is strictly confidential and may be subject to legal privileges. This communication is intended for the sole use of the individual(s) or

1 VOLUME: II

2 EXHIBITS: See Index

3

4 UNITED STATES DISTRICT COURT

5 DISTRICT OF MASSACHUSETTS

6 ----- x

7 JOHN HANCOCK LIFE INSURANCE COMPANY,

8 JOHN HANCOCK VARIABLE LIFE INSURANCE

9 COMPANY, and MANULIFE INSURANCE COMPANY

10 (f/k/a INVESTORS PARTNER INSURANCE COMPANY)

11 Plaintiffs Civil Action

12 v. No. 05-11150-DPW

13

14 ABBOTT LABORATORIES

15 Defendant

16 ----- x

17 CONTINUED DEPOSITION of STEPHEN J. BLEWITT

18 Wednesday, May 16, 2007

19 1:04 p.m.

20 Donnelly, Conroy & Gelhaar, LLP

21 One Beacon Street

22 Boston, Massachusetts

23 Michelle Keegan, Court Reporter

24

1 PROCEEDINGS

2 STEPHEN J. BLEWITT

3 having been satisfactorily identified and duly sworn
4 by the Notary Public, was examined and testified as
5 follows:

6 DIRECT EXAMINATION

7 BY MR. LORENZINI:

8 Q. Good afternoon, Mr. Blewitt.

9 A. Good afternoon.

10 Q. This is a continuation of your deposition
11 that began a number of months ago. Do you
12 understand that you remain under oath?

13 A. Yes.

14 MR. DAVIS: Same stipulations again,
15 correct?

16 MR. LORENZINI: Yes.

17 Q. Mr. Blewitt, I'm going to ask you some
18 questions first about ABT-773.

19 A. Okay.

20 Q. What documents did you receive from Abbott
21 regarding ABT-773?

22 A. Are you talking about prior to the
23 transaction being consummated?

24 Q. Yes. Thanks for the clarification.

1 A. I recall receiving the descriptive
2 memorandum regarding ABT-773. I recall receiving a
3 research plan regarding ABT-773.

4 The ABT-773 was certainly in all of the
5 legal documents that we talked about. Most of the
6 legal documents referenced ABT-773.

7 Q. By the "legal documents," you mean the
8 drafts of the contract?

9 A. Yeah.

10 Q. And just to clarify, the annual plan that
11 you referenced, that's the annual research plan
12 that's attached to the agreement?

13 A. Yes.

14 Q. Okay.

15 A. At this point I can't recall other
16 documents. There may have been, but I can't recall.

17 Q. What investigation did John Hancock conduct
18 regarding ABT-773 besides reviewing the documents
19 from Abbott?

20 A. Well, we engaged Dr. Klotz, who did some
21 analysis and spoke to I believe an outside person,
22 another doctor. We discussed the compound with at
23 least Dr. Leonard. And we certainly would have
24 discussed it with Mr. Cohen and Mr. Deemer.

Blewitt, Stephen (Linked) 05/16/2007 1:04:00 PM

1 We would have spoken with Dr. Leonard
2 and possibly others, other scientific folks at
3 Abbott, although I can't remember specifically.
4 We would have reviewed -- There was a
5 compound called Ketek by, I think it was Aventis at
6 the time, that was a similar compound that was being
7 developed. We would have seen financial analysts'
8 reports regarding Ketek.

9 And I believe I also would have looked
10 at, like, Medline, if that's what it was called, but
11 database searches regarding similar compounds,
12 specifically Ketek, and then 773. And there may
13 have been -- And then we did -- If I remember the
14 question -- I've been going on so long. If I
15 remember the question, we would have done financial
16 modeling also, which would have included ABT-773.

17 Q. You mentioned that you spoke with Steve
18 Cohen and Phil Deemer. Did you have any substantive
19 conversations with them regarding 773, the
20 scientific aspects of 773?

21 A. I don't remember specifically. And I'm well
22 aware that Mr. Cohen and Mr. Deemer aren't
23 scientific officers. I may have had questions that
24 they may have had answers to or got answers

1 internally, but I don't have a specific
2 recollection.

3 Q. Do you recall any specific conversations
4 with Mr. Cohen or Mr. Deemer regarding the prospects
5 of ABT-773 or the merits or viability or side
6 effects or anything of that sort?

7 A. Well, one specific conversation that I
8 recall was with Dr. Klotz and with Dr. Leonard, and
9 Mr. Cohen and Mr. Deemer were on the other end of
10 the phone. It was a telephonic conversation.

11 So ABT-773 was discussed on that. And
12 then I don't remember specific conversations that we
13 may or may not have had regarding the descriptive
14 memo and the annual research plan that Mr. Deemer
15 and Mr. Leonard were providing to me.

16 Q. So other than the conversation with
17 Mr. Klotz on which -- which Mr. Cohen and Mr. Deemer
18 were present for, you don't recall any other
19 specific conversations with Mr. Cohen or Mr. Deemer
20 regarding ABT-773?

21 A. Well, I guess I would characterize it a
22 little bit differently. We had many, many
23 conversations regarding all of the compounds. I
24 guess I don't remember a specific part of a

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1 conversation where we set aside and specifically
2 talked about ABT-773, although I don't -- we may
3 have. I just don't recall.

4 Q. Regardless of the timing of whether it was a
5 specific conversation on 773 or part of a more
6 general conversation, do you recall any
7 communications with Mr. Cohen or Mr. Deemer
8 regarding the scientific merits of ABT-773?

9 A. From a -- I don't remember the exact
10 question. From a communications standpoint,
11 obviously they were the ones who provided me with
12 the descriptive memorandum and the annual research
13 plan. So that was communicated by -- I received it
14 from one of those two gentlemen. I don't remember a
15 specific conversation -- oral conversation either
16 telephonically or in person specifically regarding
17 the scientific merits.

18 Q. You mentioned that you might have talked to
19 other scientific people at Abbott regarding ABT-773.
20 Do you recall speaking with anyone other than
21 Dr. Leonard? Any other scientific people at Abbott
22 regarding ABT-773?

23 A. I don't remember right now.

24 Q. Is there anything that you could look at to

1 refresh your recollection of whether you had such
2 conversations?

3 A. If I had something in my notes, that may
4 refresh it, but I don't know, or if there was some
5 e-mail communication that was setting up a call on
6 it, but I don't know.

7 Q. If there's no notes or communications of a
8 call, is it -- Strike that.

9 Is it likely that if you had such a
10 communication with an Abbott scientific person, you
11 would have either taken notes or there would be some
12 e-mail record of that conversation?

13 A. Not necessarily, no.

14 Q. Well, we haven't received anything from
15 Hancock that references any other communications
16 with Abbott scientific people other than Dr. Leonard
17 regarding ABT-773. Do you recall writing anything
18 related to other conversations?

19 A. I don't recall, no.

20 Q. And you don't recall whether those
21 conversations in fact took place or not?

22 A. That's correct.

23 Q. You mentioned that you conducted some
24 literature searches regarding ABT-773 and other

1 ketolides; is that right?

2 A. Yes.

3 Q. Is that in addition to the searches that

4 Dr. Klotz conducted?

5 A. I believe so, yes.

6 Q. So you personally conducted some searches?

7 A. Yes.

8 Q. And you mentioned that you used the Medline

9 database?

10 A. I believe that's what it was called or is

11 called.

12 Q. What other databases did you use?

13 A. Well, I don't remember the names of

14 different databases, but I do recall looking up

15 financial analysts who would specifically write on

16 both -- and I believe it was Aventis and Abbott. So

17 looking at what those analysts may have been saying

18 about Ketek and then also what they may have been

19 saying about ABT-773. And then there may have been

20 other scientific databases or just generally

21 searching for information regarding those.

22 Q. Do you recall any of the other databases

23 that you used?

24 A. Not the names, no.

1 Q. Did you search -- So you searched

2 specifically for articles regarding ABT-773 and

3 regarding Ketek?

4 A. Yes.

5 Q. Did you also search for articles regarding

6 ketolides generally?

7 A. I believe so.

8 Q. And did you conduct searches for macrolides?

9 A. I may have, but I don't remember

10 specifically.

11 Q. You'll recall that one of the compounds in

12 the research funding agreement was quinolone. Do

13 you recall that?

14 A. Yes.

15 Q. In connection with your due diligence, did

16 you conduct searches of these databases regarding

17 quinolone?

18 A. I believe so.

19 Q. Are there any other search terms you recall

20 using in your due diligence on ABT-773?

21 A. Not specifically right now.

22 (Exhibit Number 32

23 marked for identification)

24 Q. Mr. Blewitt, you have before you a document

1 that's been marked Exhibit 32. Is this the first
2 draft of the ABT-773 descriptive memorandum that you
3 received from Abbott?

4 A. I don't know if it is the first draft. It
5 looks like a draft. I don't know if it's the first
6 draft.

7 Q. Did you provide a draft of the descriptive
8 memorandum to Lynn Klotz?

9 A. I believe that Dr. Klotz received copies of
10 a descriptive memorandum. I don't know if it was
11 this one. And I don't know actually if I provided
12 it or if it was provided by the folks at Abbott, but
13 I believe that he did receive this or a descriptive
14 memorandum.

15 Q. And he would have received the most current
16 descriptive memorandum that existed at the time he
17 did his investigation?

18 A. I'm not certain because I don't -- again, I
19 don't recall if I actually provided it or if it may
20 have come from Abbott, but I recall that he got the
21 descriptive memorandum. I just don't specifically
22 remember which one he got.

23 Q. You're not aware of Dr. Klotz having any
24 communications with Abbott other than that one phone

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1 call with Dr. Leonard, are you?

2 MR. DAVIS: Objection. You can respond.

3 A. I don't know. I'm not sure if there were
4 other conversations, and I'm not sure if he may
5 have -- Dr. Klotz worked with us in other situations
6 that may or may not have involved Abbott. So I
7 don't know if he may have had conversations with
8 them on other matters unrelated to this matter.

9 Q. I'm just -- Thanks for the clarification.
10 I'm really just asking if you're aware of any
11 communication Dr. Klotz had with Abbott regarding
12 the program compounds that were part of the research
13 funding agreement.

14 A. Right.

15 Q. Other than the call with John Leonard.

16 A. I cannot recall a communication, but I just
17 simply don't remember.

18 Q. Did you provide any direction to Dr. Klotz
19 regarding the type of investigation he should
20 perform regarding ABT-773?

21 MR. DAVIS: Objection. You may respond.

22 A. I believe that we spoke about what he was
23 going to do with different information. And
24 specifically, I recall that he was going to do data

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1 searches, and I believe he was going to talk to some
2 outside folks. I don't remember the specific
3 direction I would have given him with regard to the
4 ABT-773 as to what to specifically look for, what
5 databases to specifically check.

6 Q. Did you discuss with him any specific issues
7 to research regarding ABT-773?

8 A. I don't recall.

9 Q. If you look on page 4 of Exhibit 32, in the
10 box at the bottom of the page you'll see that
11 there's a listing of adverse events in a phase II
12 clinical trial of ABT-773. And one of the adverse
13 events that is disclosed in this descriptive
14 memorandum is elevated liver function test, 1
15 percent of patients both in the 100 milligram dose
16 group and the 200 milligram dose group apparently
17 had elevated liver function tests. Did that
18 disclosure by Abbott in this descriptive memorandum
19 cause any concern on your part?

20 A. I don't remember whether it did or it did
21 not.

22 Q. You don't remember asking Dr. Klotz to look
23 into the issue of whether there was any liver
24 toxicity issues -- potential liver toxicity issues

1 with regard to ABT-773?

2 A. I don't remember specifically asking that.

3 Q. If you look at page 5 of this exhibit,
4 you'll see there's some projections of net sales for
5 ABT-773. Do you recall that you calculated your own
6 projections of expected sales of ABT-773 rather than
7 relying on the numbers provided by Abbott?

8 A. Yes.

9 Q. Do you also recall that Dr. Klotz concluded
10 that ABT -- concluded based on his review of the
11 literature that ABT-773 would -- that it might even
12 achieve more than a billion dollars in sales?

13 A. Well, just to be clear, "concluded" and
14 "might" are a little bit contradictory, but I do
15 remember that he did -- that there was some
16 reference to that the compound could potentially
17 have a billion dollars of sales.

18 Q. And do you recall he based that assessment
19 on his review of literature projecting that Ketek
20 would reach a billion dollars in sales?

21 MR. DAVIS: Objection.

22 A. I don't remember if that's specifically what
23 he would have pointed to to come to that conclusion
24 or if it was based on some other information that he

1 had.

2 (Exhibit Number 33

3 marked for identification)

4 Q. Mr. Blewitt, you have before you what's been

5 marked as Exhibit 33. Do you recognize this

6 document?

7 A. This is an e-mail from Dr. Klotz to me

8 regarding ketolide research.

9 Q. And Dr. Klotz attached to this e-mail his

10 summary of his literature search on ABT-773 and

11 other ketolides?

12 MR. DAVIS: Objection. You may respond.

13 A. I'm sorry. Could you just repeat the

14 question.

15 Q. Was it your understanding that this

16 attachment to the e-mail that's been marked as

17 Exhibit 33 is Dr. Klotz's summary of the results of

18 his literature search on ABT-773 and other

19 ketolides?

20 MR. DAVIS: Objection.

21 A. I'm just not sure I would characterize it

22 as -- I know he says it's his summary of research.

23 It looks like there's also questions in here that he

24 may want to ask as well as sample articles.

1 So maybe it's -- To me there may have
2 been more that was not summarized here, but also
3 there are questions in here as well and potential
4 interviewees.

5 Q. If you'd direct your attention to the e-mail
6 on the first page of Exhibit 33, Dr. Klotz writes,
7 "This might be the most promising of Abbott's single
8 drugs in the package." Do you recall that Dr. Klotz
9 expressed that view to you, that ABT-773 might be
10 the most promising of the program compounds?

11 A. I do remember that, yes.

12 Q. And that was based in part, at least, on his
13 review of the publicly available literature?

14 MR. DAVIS: Objection.

15 A. Well, it would have I think also have been
16 based -- because he's referencing -- It says
17 "greater than the billion market share that they
18 project." So I think he might also be referencing
19 the descriptive memorandum provided by Abbott.

20 Q. But he was also in making this assessment
21 relying on his own independent literature review,
22 correct?

23 MR. DAVIS: Objection.

24 A. I'm not sure what he was relying on. He

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1 does reference looking at what Aventis publicly
2 projected. So that was certainly part of it.

3 Q. And at this time you understood based on
4 this e-mail that Aventis was publicly projecting a
5 billion dollars in sales for its ketolide?

6 A. I don't recall. I don't have any reason to
7 not believe that, but I don't recall.

8 Q. And do you recall that Dr. Klotz concluded
9 based on all the information he had available,
10 including his own literature search, that Abbott's
11 ketolide ABT-773 might have superior properties to
12 Ketek?

13 A. In the last sentence of that first paragraph
14 it says that, "Abbott is not far behind and may have
15 superior properties."

16 Q. If you'd turn to the attachment, I'll direct
17 your attention to the abstracts on page JH 003030.
18 If you look at abstract numbered 3, which has the
19 title "In vitro activity of ABT-773." That's the
20 beginning of the title there.

21 A. I see that, yes.

22 Q. This abstract refers to a test of ABT-773
23 and other antibiotics. And it concludes in the last
24 sentence "ABT 773 was the most active antibiotic

1 tested in this study."

2 Do you recall that the independent
3 literature search conducted by Dr. Klotz showed that
4 this research had been conducted in which it was
5 concluded that ABT-773 was the most active
6 antibiotic of those tested?

7 MR. DAVIS: Objection.

8 A. I see what those words say. Sitting here
9 today, I don't have a specific recollection of that.

10 Q. And if you look at the next abstract down,
11 there's a conclusion in that abstract that, "ABT-773
12 was the most active antimicrobial tested against S.
13 pneumoniae" and that "ABT-773 and azithromycin were
14 equivalent in activity against H. influenzae and M.
15 catarrhalis and more active than either
16 clarithromycin or erythromycin." Do you recall that
17 Dr. Klotz learned this information in his
18 independent literature review?

19 MR. DAVIS: Objection.

20 A. I don't specifically recall, but I do see
21 that that's what it says.

22 Q. And is it your understanding that these
23 italicized comments in the attachment to Exhibit 33
24 are Dr. Klotz's comments?

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1 A. That's what it appears to me to be.

2 Q. So Dr. Klotz concluded based on his review
3 of this abstract that those were good in vitro
4 results for Abbott?

5 MR. DAVIS: Objection.

6 A. That's what he says for the -- for number 4,
7 that good in vitro results for Abbott. And above he
8 questions what about comparative animal studies
9 under section 3. I'm sorry. Under abstract 3.

10 Q. Do you know if Dr. Klotz did anything to
11 follow up on whether there were any comparative
12 animal studies regarding ABT-773?

13 A. I don't remember specifically, no.

14 Q. Did you ever ask any questions to Abbott
15 regarding whether there were comparative animal
16 studies?

17 A. My understanding was that we were provided
18 comparative studies. And I don't recall which
19 compounds the comparative studies were done against,
20 whether they were done against all of these or not.

21 Q. And do you recall the results of those
22 comparative studies?

23 A. I believe that some of them were in the
24 descriptive memorandum. And I believe -- At this

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1 point I'd have to look at the descriptive memorandum
2 to recall specifically what they say.

3 Q. On the second page of the attachment to
4 Exhibit 33, there's a list of questions for Abbott
5 on ABT-773 and competition. Did you or Dr. Klotz or
6 anyone else pose any of those questions to Abbott?

7 A. I recall that we asked questions of Abbott
8 that would have come from I believe conversations
9 that Dr. Klotz had with, I think it was
10 Dr. Moellering, who's an outside independent person.

11 I don't remember if these specific
12 questions were then asked of Abbott or if -- or
13 derivatives of these questions were asked of Abbott.

14 Q. So the final set of questions to be posed to
15 Abbott were created by Dr. Klotz after talking to
16 the expert on ketolides and antibiotics; is that
17 correct?

18 MR. DAVIS: Objection.

19 A. Dr. Klotz I know had done -- reviewed the
20 descriptive memorandum and done literature searches.
21 And I believe that by the time we had that
22 conversation with Dr. Leonard at Abbott, that he had
23 had the conversation with Dr. Moellering. That's my
24 belief.

1 Q. Okay. So if these questions weren't asked
2 in the conversation with John Leonard, then they
3 probably weren't asked at all of Abbott?

4 MR. DAVIS: Objection.

5 A. Not necessarily.

6 Q. Do you recall asking any of these questions
7 of Abbott?

8 A. Well, early on we did talk about just sales
9 in general. What I mean by "in general," meaning
10 all of the different compounds. So it's possible
11 that even at this point I may have had a
12 conversation regarding how Abbott had developed a
13 billion three of sales.

14 At some point in time I believe I knew
15 the answer, whether it was from Abbott or otherwise,
16 about HMR 3647 being the new name -- I'm sorry --
17 Ketek being the new name for HMR 3647.

18 And then I don't know specifically
19 regarding the other questions.

20 Q. You don't recall having any discussions
21 with --

22 A. I'm sorry to interrupt, but I do remember on
23 the new classes of antibiotics, I believe that in
24 the conversation with Dr. Leonard that there was

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1 some discussion about Cubicin, which I believe was
2 related to gram-positive.

3 Q. Did you have any communications with Abbott
4 about the \$1.3 billion sales projection after
5 receiving this e-mail from Dr. Klotz?

6 A. That -- I don't specifically remember the
7 time frame that we would have been talking about the
8 sales.

9 Q. At whatever point you were talking to Abbott
10 about the sales projections, do you recall anything
11 that you were told by Abbott regarding how they
12 arrived at future sales projections for ABT-773?

13 A. I don't remember the specifics of how that
14 was derived. I mean, there was certainly -- In the
15 descriptive memorandum there was discussion about
16 the compound being -- having a convenience
17 equivalent to clarithromycin -- or Zithromax. I
18 apologize.

19 So you could look at how -- potentially
20 how big that market was and whether this was a
21 compound that had a convenience equivalent to that
22 and how you would derive sales.

23 So there may have been things in the
24 descriptive memorandum that would lead you to

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1 believe that the compound could have sales of over a
2 billion dollars.

3 Q. But you don't remember any telephone
4 conversations or in-person conversations on that
5 subject of how Abbott calculated the sales
6 projections for ABT-773?

7 A. I don't remember specific conversations
8 regarding that.

9 Q. Do you recall any general conversations?

10 A. Well, on a general basis, when we talked
11 about the whole structure of the transaction and the
12 compounds that were in there, we did talk about --
13 and it's in the descriptive memorandum as to what
14 the expected sales were.

15 And that was an important part of our
16 analysis, understanding what the sales potential
17 were for the different compounds. So generally,
18 yes, I do remember that. I just don't remember the
19 specifics.

20 (Exhibit Number 34
21 marked for identification)

22 Q. Mr. Blewitt, the court reporter has marked
23 Exhibit Number 34, which is a June 20, 2000 e-mail
24 from Lynn Klotz to you with an attachment. Do you

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1 recognize this as an e-mail and attachment that you
2 received from Dr. Klotz?

3 A. Yes.

4 Q. Turn to page JH 002087, please. You'll see
5 that there's a heading on that page for ABT-773.

6 Are these Dr. Klotz's initial thoughts on ABT-773
7 after he was engaged by Hancock on this project?

8 MR. DAVIS: Objection.

9 Q. And feel free to look at the entire document
10 if you'd like.

11 A. I'm sorry. I'm not sure I understand
12 because the heading is -- Go ahead. Rephrase it.

13 Q. Was it your understanding that this
14 attachment entitled "preliminary analysis of Abbott
15 drug basket" was Dr. Klotz's -- well, precisely what
16 it says, his preliminary analysis of each of the
17 compounds?

18 MR. DAVIS: Objection. You may respond.

19 A. Yes.

20 Q. And in looking specifically at the section
21 regarding ABT-773, there's some questions posed in
22 that section. Do you recall if you or anyone else
23 at John Hancock or Dr. Klotz posed any of those
24 questions to Abbott?

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1 MR. DAVIS: Objection. You may respond.

2 A. Well, there's a question regarding -- On the
3 second paragraph under ABT-773, there's a question
4 about the compound being -- The question is, "Is
5 it?" And it refers to, is the compound in phase
6 III?

7 So we did receive an answer to that,
8 whether the question was specifically posed to
9 Abbott or we had that answer.

10 Q. And what was the answer to that question?

11 A. Abbott had disclosed that it had moved into
12 phase III trials. And I believe that it had just
13 moved into phase III in about the June/July time
14 frame. So that would have been an answer to the
15 question about how far along.

16 Q. And then that was accurate information you
17 were provided, correct?

18 A. It was provided by Abbott. So I don't know
19 if it was accurate.

20 Q. You're not aware of any inaccuracies in that
21 information about when 773 entered phase III?

22 A. Well, no. It had entered -- I believe that
23 it had entered phase III at that time. And then I
24 believe we asked the question about ketolide -- So

1 this is down now in the fourth paragraph in terms of
2 whether Aventis's ketolide had been approved. And I
3 believe that question was answered. I can't recall
4 specifically now if it had been approved in Europe
5 and not in the U.S., but I believe we have an answer
6 to that question.

7 And then I can't remember specifically
8 if we asked about or had developed some information
9 regarding how Abbott's ketolide compared to Ketek.

10 Q. You don't remember asking Abbott that
11 question?

12 A. We may have. I can't remember right now.

13 Q. Is there anything that you could look at to
14 refresh your recollection whether you asked Abbott
15 that question?

16 A. We could look at the notes. It may be
17 helpful to look at the notes of the conversation
18 that we had with them -- with Dr. Leonard.

19 Q. Is there anything else you could look at?

20 MR. DAVIS: Objection. You can respond
21 if you know.

22 A. I don't know.

23 (Exhibit Number 35
24 marked for identification)

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1 Q. Mr. Blewitt, you have before you Exhibit 35,
2 which is a document Bates-stamped JH 002212 through
3 2226. It appears to be a series of abstracts.

4 Dr. Klotz testified this morning that he
5 provided this set of abstracts to you. Is that
6 consistent with your recollection?

7 MR. DAVIS: Objection. You may respond.

8 A. He may have. I don't specifically remember
9 this document.

10 Q. You don't have any reason to doubt
11 Dr. Klotz's testimony on that subject?

12 MR. DAVIS: Objection.

13 A. I don't have any reason to doubt.

14 Q. Do you recall that Dr. Klotz's search of the
15 literature showed that ketolides were a promising
16 new class of antibiotics?

17 A. I can read through it and see if he says
18 that. I vaguely remember that that was also -- that
19 that may have been something that Abbott said in
20 their descriptive memorandum. So to the degree that
21 he's read that and you consider that research.

22 Q. No. I'm specifically asking about his
23 conclusions based on your review of the literature.
24 Feel free to look through any portion of the

1 document, but I'll direct your attention
2 specifically to JH 2215.

3 There's an abstract there numbered 5,
4 abstract 5, in the Journal of Antimicrobial
5 Chemotherapy. I guess that's what that title is.
6 It's cut off. It's an abbreviation.

7 MR. DAVIS: It's the chemomother's
8 journal, whatever that means.

9 Q. If you look at the italicized comment there,
10 which Dr. Klotz testified that the italicized
11 comments were added by him to this document.

12 A. Okay.

13 Q. He says, "Again, evidence of their promise,"
14 referring to the Ketek ketolide. Does that refresh
15 your recollection that Dr. Klotz found evidence in
16 his literature search that ketolides were promising
17 antibiotics?

18 MR. DAVIS: Objection. I'd caution you
19 not to speculate. If you know.

20 A. Just reading the words, it says, "evidence
21 of their promise."

22 Q. And do you recall that his literature search
23 also showed that there was evidence that ABT-773 in
24 particular was a promising antibiotic?

1 MR. DAVIS: Objection.

2 A. Well, going back to a prior exhibit, I don't
3 remember the exact wording, but he did reference
4 that -- and I don't remember the specific words now,
5 but that Abbott was not far behind -- Abbott's
6 ABT-773 was not far behind Ketek and it may have
7 superior properties.

8 Q. So you do recall that he concluded based on
9 his literature search that ABT-773 might have
10 superior properties to Ketek?

11 MR. DAVIS: Objection.

12 A. Well, again, I would say I'm not sure
13 "conclude" and the word "may" -- I don't know if
14 they're contradictory, but he did state, I believe,
15 that they may have superior properties.

16 Q. If you'd look at page JH 2216, the abstract
17 at the bottom of the page ends with the sentence
18 which has been bolded by Dr. Klotz. It says,
19 "ABT-773, therefore, shows promising in vitro
20 activity against macrolide-susceptible as well as
21 -resistant pneumococci." And then he notes in
22 italics, "Confirms Abbott's statements."

23 Do you recall that in Dr. Klotz's
24 literature search that he found evidence that

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1 ABT-773 showed promise in combating resistant
2 microbes?

3 MR. DAVIS: Objection. You may respond.

4 A. Say the last part -- Could you just say the
5 last part again.

6 Q. Do you recall that in his literature search
7 Dr. Klotz found evidence that ABT-773 showed promise
8 in combating resistant strains of bacteria?

9 MR. DAVIS: Objection.

10 A. That's what is bolded in this abstract 1.
11 And the only clarification is that it's talking
12 about in vitro. But that's what that comment says.

13 Q. And was that consistent with the results of
14 your own independent search of the literature that
15 ABT-773 showed promise against resistant strains of
16 bacteria?

17 A. I don't remember specifically what I would
18 have seen that was the same or different than
19 Dr. Klotz in my own...

20 Q. Do you recall in your own literature search
21 uncovering any information that was inconsistent
22 with the abstracts provided to you by Dr. Klotz?

23 A. I don't recall. I may have, but I don't
24 recall.

1 Q. You can't think of anything now?

2 A. That's contradictory to anything that he

3 put -- any of these?

4 Q. Any of the information Dr. Klotz provided to

5 you.

6 A. I can't recall.

7 Q. Do you recall generally that your own

8 independent literature search revealed that

9 ketolides were considered a promising class of

10 antibiotics?

11 MR. DAVIS: Objection.

12 A. I don't remember specific -- that specific

13 language, but I know that there was an expectation

14 -- that through my own search there was an

15 expectation that Ketek would have substantial sales,

16 I believe greater than a billion. I don't remember

17 specifically if I remember seeing analysts

18 projecting a billion dollars in sales for ABT-773,

19 but if you consider having a billion dollars' worth

20 of sales as promising, I believe that I did see

21 that.

22 Q. Did you see any information in your

23 independent literature search regarding potential

24 side effects with ketolides?

1 A. I may have, but I don't remember anything
2 specifically.

3 Q. You don't remember anything in the
4 literature that you saw in ketolides regarding heart
5 or liver issues with respect to the ketolide class?

6 MR. DAVIS: Objection. You can respond.

7 A. Again, I may have, but I don't remember
8 anything.

9 Q. Do you recall being aware through your
10 literature or from your own prior experience that
11 there were QTc issues associated with some
12 macrolides?

13 MR. DAVIS: Objection.

14 Q. Macrolides, I should say. I think I
15 mispronounced it.

16 MR. DAVIS: Same objection.

17 A. I may have, but I don't recall.

18 Q. You are aware that ketolides were a
19 derivative of macrolides, correct?

20 A. I believe that there was some relationship
21 between ketolides and macrolides. My recollection
22 was, at least the way Abbott characterized it, it
23 was a new class of compound but that there was some
24 relationship.

1 Q. Right. And you knew that macrolides and
2 ketolides had a similar mechanism of action?

3 A. Whether that's the relationship that was
4 there, it's possible.

5 Q. You wrote in your yellow report to the bond
6 investment committee, the report dated September 21,
7 2000, that ketolides have a similar mechanism of
8 action to other macrolides, such as Pfizer's
9 Zithromax and Abbott's Biaxin. Does that refresh
10 your recollection that you were aware of that fact?

11 A. If that's what I wrote -- and I have no
12 reason to believe that I didn't write that -- then I
13 would have been aware at that time.

14 MR. DAVIS: Do you want to take a break
15 for a couple minutes?

16 MR. LORENZINI: Can we finish up this
17 line of questioning?

18 MR. DAVIS: Sure. If you think it's
19 going to be more than a few minutes, let me know.

20 (Exhibit Number 36
21 marked for identification)

22 Q. Mr. Blewitt, you have before you what the
23 court reporter has marked as Exhibit 36. It's an
24 article from Schroder Salomon Smith Barney dated May

1 11th, 2000 regarding Ketek.

2 Is this one of -- You testified earlier

3 that you conducted some searches of financial

4 reports regarding ketolides, including Ketek. Is

5 this one of the articles that you located during

6 your search?

7 A. Just to be clear, it looks like it's at

8 least more than one article.

9 Q. Okay. Thank you for that.

10 A. If you go to 751 -- I'm sorry -- JH 000751,

11 that looks like it's another article.

12 Q. Right. It says PaineWebber at the top?

13 A. Yes.

14 Q. It looks like this Exhibit 36 is a

15 compilation of two articles, one by Schroder Salomon

16 Smith Barney and one by PaineWebber?

17 A. Yes.

18 Q. With that clarification, are these articles

19 that you located during your independent search for

20 information regarding ketolides?

21 A. They certainly could be. I vaguely remember

22 the way this page looks on -- the first one, on

23 Ketek.

24 Q. Well, these were produced to us by John

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1 Hancock. Does that help refresh your recollection
2 of whether these are documents that you obtained in
3 your research?

4 MR. DAVIS: Objection. You can respond.

5 A. I have no reason to believe that they're
6 not. It's just trying to remember the specific
7 documents.

8 Q. You're aware that quinolones are a class of
9 antibiotics, correct?

10 A. Yes.

11 Q. And you were aware in 2000 that certain
12 quinolones had QTc prolongation and liver -- and/or
13 liver toxicity issues, correct?

14 MR. DAVIS: Objection.

15 A. I don't have specific recollection other
16 than just looking through the document now I do see
17 a reference to quinolones and QTc.

18 Q. Specifically, for example, on page JH 000757
19 through 758, there's reference to several quinolones
20 that were reported to have heart and/or liver
21 issues. Do you see that?

22 MR. DAVIS: Are you asking him whether
23 he sees that in the document?

24 MR. LORENZINI: Yeah, just as a starting

1 point for other questions.

2 A. I'm just trying to see if -- Yes, I see

3 that. Well, let me just make sure I read this

4 through.

5 (Pause)

6 A. Yes. For instance, for Trovan, which is the

7 first compound that's mentioned under "recent

8 product trends," there's a reference. It says, "In

9 light of some adverse liver events."

10 Q. And you were aware at this time, in 2000,

11 that there was increased regulatory scrutiny of

12 antibiotics with respect to heart and liver issues,

13 correct?

14 MR. DAVIS: Objection.

15 A. Again, I'm not sure that I recall that. I

16 can read through this and see if that's what it

17 says, but I don't recall that today.

18 Q. Whatever is in this article you were aware

19 of when you conducted your research regarding the

20 program compounds, correct?

21 MR. DAVIS: Objection.

22 A. My belief is that if these were articles

23 that we produced, there was research that we would

24 have -- I specifically would have developed and

1 would have read.

2 Q. And you were aware also that there had been
3 increased regulatory scrutiny of macrolides
4 regarding QTc prolongation issues, correct?

5 MR. DAVIS: Objection.

6 A. I would have the same answer regarding
7 quinolones. I just sitting here today don't
8 specifically remember that.

9 Q. Do you recall that there was some QTc issues
10 that arose regarding erythromycin, one of the early
11 macrolides?

12 MR. DAVIS: Objection.

13 A. Sitting here today, I don't -- I may have
14 known that, but I don't recall that right now.

15 Q. If you look at this exhibit, the pages we
16 were just referencing, you'll see some references
17 there to regulatory actions. For example, on the
18 top paragraph of 757 it states, "On May 26th, 1999,
19 the European Commission decided to limit the use of
20 Pfizer's Trovan to hospital-based use only in light
21 of some adverse liver events that occurred in
22 patients who took Trovan. Following the European
23 decision, in June 1999, Pfizer announced that the
24 FDA would also limit the use of Trovan to treat only

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1 certain serious infections and primarily
2 hospital-based use."
3 And then if you look down -- the third
4 paragraph down says with respect to another
5 quinolone called clinafloxacin, "The FDA had some
6 liver toxicity concerns and requested that Warner
7 perform some additional tests."

8 And finally, if you look on the next
9 page, in the first paragraph there's a statement
10 that, "on both the Avelox and the Tequin labels" --
11 and those are both references to quinolones --
12 "there are boldface warnings regarding Avelox's
13 potential to prolong the QT interval in some
14 patients."

15 In light of this information that was
16 available publicly and that you had found in your
17 literature search, it would not have been a surprise
18 to know that the regulatory agencies were going to
19 be scrutinizing new antibiotics with respect to
20 heart and liver issues, would it have?

21 MR. DAVIS: Objection.

22 A. Well, I mean, what you're referencing is
23 specific issues related to specific compounds that
24 are quinolones. So I'm not sure I understand the

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1 question in terms of broadening it out, antibiotics
2 generally and to ketolides specifically.

3 Q. The question is just, given increased
4 regulatory scrutiny of quinolones and macrolides,
5 would it have been a surprise to you to know that
6 the FDA and other regulatory agencies were
7 scrutinizing antibiotics generally with respect to
8 heart and liver issues?

9 MR. DAVIS: Objection.

10 A. In going through what we just went through
11 in terms of pages 757 and 758, I can read this more
12 carefully, but I don't see where it says that this
13 is increased scrutiny. It's referencing specific
14 compounds, but we can...

15 Q. Well, it's referencing labeling requirements
16 and restrictions on use of certain quinolones.

17 A. I'm sorry. But for specific compounds.

18 Q. Right. Specific compounds that were found
19 to have problems associated with them. But I'm
20 asking, in light of that information, it wouldn't
21 have been a surprise to you that the FDA would be
22 asking companies developing new antibiotics
23 information about whether there were any heart or
24 liver issues with the compound?

1 MR. DAVIS: Objection.

2 A. And I -- I guess what I'm saying is that
3 there's a list of specific compounds that had
4 specific issues. And I wouldn't necessarily
5 generalize.

6 For instance, there's -- It looks like
7 there's a number of compounds that are listed here
8 on the top of that page, which I don't know if there
9 are any mentions of liver toxicity issues or QT
10 issues related to those compounds. But even if
11 there was, I don't know that I would just
12 necessarily generalize that.

13 Q. So is it your understanding based on your
14 knowledge of the pharmaceutical industry that just
15 because there's a safety issue associated with a
16 particular compound in a class, that doesn't
17 necessarily mean that there's a problem with the
18 class as a whole, correct?

19 MR. DAVIS: Objection.

20 A. If I understand the question correctly,
21 there -- lots of compounds in any class go through
22 clinical trials and may even get approved. Some are
23 approved and some aren't and some get approved with
24 limitations or some are taken off the market. I

1 don't believe that that necessarily paints every
2 compound in that class exactly the same way.

3 Q. So you have to look at the specific results
4 of the tests for a particular compound to draw any
5 conclusions about whether that compound has any
6 significant safety concerns?

7 MR. DAVIS: Objection.

8 A. Well, the clinical trials are done on the
9 specific compounds. And so you look at safety and
10 efficacy for the specific compound and on a
11 comparator basis.

12 Q. And so the fact that the FDA might be asking
13 questions about whether there are side effects
14 related to a particular compound doesn't necessarily
15 mean that there are -- is a problem with that
16 compound? That would have to be determined by
17 reference to the actual preclinical tests and
18 clinical trials of that compound, correct?

19 MR. DAVIS: Objection.

20 A. Yeah. If I understand the question, the FDA
21 would ask specific -- could ask questions regarding
22 specific compounds that the clinical -- the results
23 of the clinical trials would hope to answer those
24 specific questions.

1 MR. LORENZINI: We can take a break now
2 if you'd like.

3 (Recess taken)

4 (Exhibit Number 37
5 marked for identification)

6 Q. Mr. Blewitt, you have before you what's been
7 marked as Exhibit 37. It's an article entitled --
8 well, the title is obscured because this is a bad
9 copy that we received from Hancock, but the title
10 begins with the word "New Antimicrobials."

11 Is this an article that you found during
12 your search of the literature regarding ABT-773?

13 A. I don't recall this specific document, if it
14 came out of our files.

15 Q. Dr. Klotz testified that he didn't recall
16 locating this document in his search. If you look
17 at the top right-hand corner, you'll see there's an
18 address, Medscape.com?

19 A. Yes.

20 Q. Did you conduct any searches of Medscape.com
21 in your due diligence regarding the Abbott deal?

22 A. It's possible. I'm certainly aware of that
23 name, Medscape.

24 Q. And you just don't recall whether you

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1 conducted searches of that?

2 A. Of that specific one -- The only one -- The
3 name that I specifically remembered was Medline, but
4 it's possible that I did Medscape as well.

5 Q. This was a document produced to us by
6 Hancock. And Dr. Klotz, as I said, testified that
7 he didn't recall ever seeing this before. Does that
8 refresh your recollection in any way of whether this
9 is a document -- an article that you found during
10 your independent investigation concerning ABT-773?

11 A. No.

12 (Exhibit Number 38
13 marked for identification)

14 Q. Mr. Blewitt, the court reporter has marked
15 as Exhibit 38 a document titled "Abbott's Ketolide
16 Antibiotic ABT-773," which has some handwritten
17 notes on it. Are these your handwritten notes?

18 A. They -- It looks like it's my handwriting.

19 Q. And is the typewritten text, is that
20 something that was provided to you by Dr. Klotz?

21 A. I believe so.

22 Q. And are these notes that -- The handwritten
23 portion, are those notes that you took based on a
24 telephone conversation?

1 A. I don't know.

2 Q. Do you have any recollection of when you

3 took these notes down?

4 A. I don't. This looks like this is the

5 attachment to one of the earlier exhibits. So I

6 presume I took the notes after. So that was June or

7 July of 2000. More specifically than that, I don't

8 know.

9 Q. Are they notes that were taken during a call

10 with Dr. Klotz?

11 A. They could have been, but I -- I'm not sure

12 that I can say that with certainty.

13 Q. You'll see at the top right-hand corner

14 there's a comment, "Toxicity?" and then it's crossed

15 out. It's under the heading "Quinolones."

16 A. Which has been crossed out.

17 Q. Which has also been crossed out.

18 A. That's what that word looks like. I'm not

19 100 percent positive, but it looks like that says

20 "toxicity."

21 Q. Do you have any recollection of why you

22 wrote "toxicity?" and/or why you crossed it out?

23 A. No, I don't.

24 Q. Were you looking into toxicity issues

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1 associated with quinolones?

2 A. I don't know why -- I'm not sure if -- I

3 don't know if Moxifloxacin is a quinolone and the

4 toxicity related to Moxifloxacin or for at least the

5 quinolones -- I just don't know what that's

6 referring to.

7 (Exhibit Number 39

8 marked for identification)

9 Q. Mr. Blewitt, the court reporter has marked

10 as Exhibit 39 an e-mail from Lynn Klotz to you dated

11 July 21, 2000 along with an attachment. Is this an

12 e-mail that you received from Dr. Klotz attaching

13 his summary of his interview with Dr. Moellering?

14 A. I believe so, yes.

15 Q. And you didn't participate in the interview

16 with Dr. Moellering, correct?

17 A. That's correct.

18 Q. Do you know whether that interview -- Strike

19 that.

20 Do you know how long the interview

21 between Dr. Klotz and Dr. Moellering lasted?

22 A. I remember some reference to, like, a

23 five-minute interview. I don't know if it was this

24 interview or if it was another interview.

1 Q. You're in the -- At some point you heard a
2 reference to a five-minute interview, but you don't
3 know which program compound it related to?

4 A. That's correct.

5 Q. Do you know whether the interview with
6 Dr. Moellering was conducted impromptu, with a call
7 from Dr. Klotz to Dr. Moellering, or whether it was
8 scheduled in advance? And don't speculate but just
9 if you know.

10 A. I don't remember.

11 Q. If you'll turn to the attachment that's part
12 of Exhibit 39, you'll see the heading is "Robert
13 Moellering interview on colchicine-site binding
14 agents," but the upper left-hand corner states
15 "File:ketolides-moellering." Is it your
16 understanding that colchicine-site binding agents is
17 just an error in the title?

18 A. I believe that's correct.

19 Q. So this is, in fact, a summary of
20 Dr. Klotz's interview with Dr. Moellering regarding
21 ketolides?

22 MR. DAVIS: Objection. You can respond.

23 A. That's my belief, yes.

24 Q. Did you have any conversation with Dr. Klotz

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1 regarding his interview with Dr. Moellering?

2 A. I don't remember if we specifically talked
3 about that specific discussion with Dr. Moellering
4 or if we had general conversations about all of his
5 interviews. We certainly in our conversation with
6 Dr. Leonard and Mr. Deemer and Mr. Cohen, I think
7 there were some questions that were derived from
8 this interview with Dr. Moellering. So to the
9 degree that I was on that call, I guess you could
10 say that we had a conversation regarding it.

11 Q. But other than that, you don't recall any
12 conversations with Dr. Klotz about his
13 Dr. Moellering interview?

14 A. Not specifically, no.

15 Q. Did you help come up with the questions for
16 the experts, or is that something Dr. Klotz did on
17 his own?

18 A. My recollection was that Dr. Klotz had sent
19 to me an e-mail with potential questions for experts
20 on all of the compounds. Whether we had a
21 conversation and I asked him to add or subtract, I
22 don't recall, but I believe that he did communicate
23 what he was potentially going to ask the experts to
24 me.

1 Q. And after receiving this report of the
2 Dr. Moellering interview, did you have any further
3 questions that you believed needed to be answered
4 with respect to ABT-773?

5 A. My recollection was that we followed this
6 interview -- but it also related, I believe, to the
7 other compounds -- with then a call with Dr. Leonard
8 and Mr. Deemer and Mr. Cohen where we did have
9 additional questions.

10 Q. So whatever questions you and Dr. Klotz
11 believed were outstanding after the interview with
12 Dr. Moellering you presented to Dr. Leonard during
13 the subsequent interview?

14 A. There may have been ways to get answers
15 otherwise. I don't remember specifically if every
16 question that was outstanding was posed to
17 Dr. Leonard.

18 Q. But Dr. Klotz has testified that the end of
19 his work for John Hancock on this project was after
20 the interview with John Leonard and after he typed
21 up his summary of that interview. That was the end
22 of his work with respect to this project, correct?

23 MR. DAVIS: Objection. You're asking
24 him whether that's what Dr. Klotz has testified to?

1 MR. LORENZINI: No.

2 Q. Is that consistent with your recollection?

3 A. I believe so.

4 Q. And so after the interview with Dr. Leonard,
5 there were no further questions regarding ABT-773
6 that you believed were significant enough to warrant
7 additional work by Dr. Klotz, correct?

8 A. I don't recall any.

9 (Exhibit Number 40
10 marked for identification)

11 Q. Mr. Blewitt, the court reporter has marked
12 as Exhibit 40 an e-mail from Lynn Klotz to you dated
13 July 23, 2000 with an attachment entitled "Questions
14 for Abbott." Do you recall receiving this e-mail
15 and attachment from Dr. Klotz?

16 A. Yes.

17 Q. And do you recall that Dr. Klotz gave you a
18 preliminary list of questions for Abbott regarding
19 ABT-773 that you had an opportunity to review and
20 see if there was anything that should be added or
21 subtracted?

22 A. I'm sorry. So preliminary to this?

23 Q. No. Including this. I'm just asking, do
24 you recall that Dr. Klotz gave you a list of

1 preliminary questions for Abbott in this e-mail and
2 that you had an opportunity to suggest adding or
3 subtracting questions to that list?

4 A. Yes.

5 Q. And did you have any additions or
6 subtractions to the questions regarding ABT-773?

7 A. I don't recall if I did or not.

8 Q. If it's not reflected in the e-mails, it's
9 likely that you didn't have any?

10 MR. DAVIS: Objection.

11 A. No, not -- I mean, I wouldn't necessarily
12 say that.

13 Q. Presumably it would be reflected in the
14 write-up of the actual interview with Dr. Leonard,
15 correct?

16 MR. DAVIS: Objection.

17 A. I'm not sure -- On the call that we had with
18 Dr. Leonard, I don't know if I asked any questions
19 that were or were not reflected in the summary of
20 that call.

21 Q. You don't recall asking any, though, do you?

22 A. I don't recall any specific.

23 Q. Do you recall any questions generally that
24 you personally asked in that call?

1 A. I don't.

2 (Exhibit Number 41

3 marked for identification)

4 Q. Mr. Blewitt, you have what's been marked as

5 Exhibit 41, which is an e-mail from Lynn Klotz to

6 you dated July 28th, 2000 with an attachment

7 entitled "Telephone interview with Abbott, Conducted

8 by L. Klotz (consultant) and S. Blewitt.

9 A. Yes.

10 Q. Do you recall receiving this e-mail?

11 A. Yes.

12 Q. And at the time you received this e-mail,

13 did you believe that this was an accurate and

14 complete summary of your telephone conversation with

15 Abbott representatives and Dr. Klotz?

16 A. I don't recall it being inaccurate or

17 materially incomplete.

18 Q. And sitting here today, do you recall

19 anything that was discussed during the call with

20 John Leonard that isn't reflected in Dr. Klotz's

21 summary?

22 A. No.

23 Q. And sitting here today, do you recall

24 anything in Dr. Klotz's summary that is -- that you

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1 believe is an inaccurate reflection of what was
2 discussed during the call?

3 A. No.

4 Q. You recall that Dr. Klotz concluded that
5 most questions for Abbott -- that were posed to
6 Abbott were answered satisfactorily?

7 A. I believe that's what his e-mail said.

8 Q. And if you look at the section regarding
9 ABT-773, you can use that to refresh your
10 recollection. Do you recall that all of the
11 questions posed to Abbott regarding 773 during this
12 call were answered satisfactorily in the opinion of
13 Dr. Klotz?

14 A. I guess I'm not sure I understand the
15 question.

16 Q. Was it your understanding that Dr. Klotz had
17 concluded that all of the questions regarding
18 ABT-773 were answered satisfactorily?

19 MR. DAVIS: Objection. You may respond.

20 A. Well, his e-mail actually says, "most
21 questions were answered satisfactorily."

22 Q. Right. But that's referring to all of the
23 compounds. So I'm just asking you specifically with
24 respect to ABT-773, was there anything that you

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1 believe that Abbott hadn't answered satisfactorily
2 with respect to that compound during the call?
3 A. I don't recall at the time that they had --
4 I believe it was mainly Dr. Leonard, not exclusively
5 Dr. Leonard, talking. I don't recall believing that
6 any questions regarding ABT-773 were not answered
7 satisfactorily.

8 Q. And you recall that Dr. Klotz also concluded
9 that there was certainly no indication of any
10 deception on Abbott's part with respect to the
11 program compounds?

12 MR. DAVIS: Objection.

13 A. That's what his e-mail says.

14 Q. And did you agree with that assessment at
15 the time?

16 A. I did not -- At that time I did not believe
17 that there was any deception.

18 Q. And this was the end of the work by
19 Dr. Klotz regarding ABT-773, correct? "This,"
20 meaning his report on the John Leonard interview.

21 A. I think that's generally true. Whether we
22 had any other conversations, we may have had
23 conversations after this, but I think that's a
24 fairly accurate statement.

1 Q. I just want to clarify. You said "fairly
2 accurate." You don't recall any additional work
3 that you had Dr. Klotz perform after this John
4 Leonard interview, correct?

5 A. I don't. As it relates to ABT-773?

6 Q. Correct.

7 A. I don't believe -- I don't recall any.

8 Q. You didn't ask Dr. Klotz to conduct any
9 additional work based on new information received
10 from Abbott regarding ABT-773 after July 28th, 2000,
11 did you?

12 A. I don't believe I did.

13 MR. DAVIS: Objection. You may respond.

14 A. I don't believe I did.

15 Q. And you did receive additional information
16 from Abbott regarding that compound after July 28th,
17 2000, correct?

18 MR. DAVIS: Objection. A moment ago you
19 said "new information." Now you're saying
20 "additional information." Is there a distinction
21 there?

22 MR. LORENZINI: New. I'll use the word
23 new.

24 A. Well, I would have received a revised

1 descriptive memorandum. I don't know if that's new
2 or not. And we would have received the annual
3 research plan that went into the research funding
4 agreement. And there may have been other
5 information that we got on the compounds generally
6 and certainly going through the legal documents and
7 all.

8 But I did not engage Dr. Klotz to
9 review -- I don't believe I engaged him to review
10 any material regarding the ABT-773 after this time
11 frame, around July 28th of 2000.

12 Q. So you didn't give Dr. Klotz copies of the
13 revised versions of the descriptive memoranda for
14 773, correct?

15 A. I believe that's correct.

16 Q. And you didn't give him copies of the annual
17 research plan regarding ABT-773?

18 A. I don't believe so.

19 Q. Mr. Blewitt, you have before you what was
20 previously marked as Blewitt Exhibit 20, which is
21 the research funding agreement between Abbott and
22 Hancock. Do you recognize this document?

23 A. Obviously without going through every page,
24 it appears -- I recognize it to be the research

1 funding agreement.

2 Q. Could you turn to page JH 008153, please.

3 A. Okay.

4 Q. Beginning on this page is the ABT-773

5 descriptive memorandum that was attached to the

6 research funding agreement. Have you reviewed this

7 document recently?

8 A. Yes.

9 Q. In preparation for your deposition?

10 A. Yes.

11 Q. I'd like you to tell me -- identify for me,

12 if you will, any statements in this document or

13 anything in this descriptive memorandum that you

14 believe is false or misleading.

15 MR. DAVIS: Take your time.

16 Q. And just to clarify, anything that you

17 believe was a false or misleading representation by

18 Abbott based on Abbott's knowledge as of March 13th,

19 2001.

20 A. Right. Well, in the first -- So page 2 of

21 the document.

22 Q. And just for the record, that's JH 008154?

23 A. Yes. There's a statement that says,

24 "ABT-773 has an expected U.S. launch date in Q1,

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1 2004." I believe that that was not a true
2 statement.

3 There are a bunch of references to
4 activity against resistant strains. There's an
5 issue in terms of disclosure or lack of disclosure
6 relative to Abbott's ability to either get -- be
7 able to claim resistance or be able to get the
8 trials done in a time frame to launch the compound
9 in Q1 2004, which I believe was incorrect anyway.

10 "The dosing is expected to be once a
11 day." I believe that that's not a fully true
12 statement. I believe that there was some
13 significant concerns regarding whether it was going
14 to be once a day or twice a day.

15 I'm just going to -- Give me a couple of
16 minutes to read through this.

17 (Pause)

18 A. There is a reference -- There are references
19 throughout to the IV formulation of the compound.
20 And I believe that there were significant questions
21 which weren't disclosed, significant questions in
22 Abbott's mind regarding development of the IV
23 formulation.

24 I did not see any disclosure regarding

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1 potential QT issues with this specific compound and
2 additional tests that Abbott was required to do
3 regarding the QT issues.

4 There is a mention of the elevated liver
5 function test on page JH 008156, which we spoke
6 about earlier, the 1 percent. My understanding is
7 that there were significant concerns regarding liver
8 function tests that was not highlighted beyond this
9 1 percent adverse.

10 So I think generally those are the
11 concerns that I've got with what is either incorrect
12 or what was omitted in the discussion -- I'm
13 sorry -- in the descriptive memorandum.

14 Q. Could you turn to page JH 008117.

15 MR. DAVIS: 8117?

16 MR. LORENZINI: Correct.

17 A. Okay.

18 Q. This is the annual development plan for
19 ABT-773 that was attached to the research funding
20 agreement. I should clarify. It actually is a
21 two-page section of the document. It continues on
22 to page 8118.

23 Could you take a moment -- Well, strike
24 that.

1 Have you reviewed this annual
2 development plan for ABT-773 recently?

3 A. Yes.

4 Q. In preparation for your deposition?

5 A. Yes.

6 Q. Could you take a moment to look at these two
7 pages again, 8117 through 8118, and please identify
8 for me any information on those pages that you
9 believe was false or misleading as of March 13th,
10 2001?

11 A. Again, I think that there was some general
12 concerns within Abbott regarding the development of
13 the IV that is not disclosed here. I believe that
14 there was general concerns regarding achieving the
15 resistance claim and any delays that that may have
16 to achieve that that's not disclosed.

17 There is -- For the -- This is in the
18 description section that talks about the tablet
19 dosing is 150 milligrams QD or 150 milligrams BID
20 based on severity of indications.

21 I believe that it was actually QD or BD
22 based on the indications, not the severity of the
23 indications. And again, I believe that the launch
24 date was later than Q1 2004. And that holds true on

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1 the -- Flip over to the next page in terms of the
2 launch date.

3 And it may hold true in terms of --
4 Those are generally the concerns that I've got, but
5 it may -- in terms of clinical program, when the
6 expected end of the phase III was, whether it was
7 May '02 or not, I'm not sure if I -- if that's
8 correct.

9 I think that's it.

10 MR. LORENZINI: I'd like to mark this as
11 the next exhibit.

12 (Exhibit Number 42
13 marked for identification)

14 Q. Mr. Blewitt, you have before you what the
15 court reporter has marked as Exhibit 42, which is
16 Hancock's first amended supplemental complaint. Do
17 you recognize this document?

18 A. Yes.

19 Q. John Hancock -- Before I ask you about this
20 specific exhibit, John Hancock filed its original
21 complaint in this action in 2005, correct?

22 A. I don't remember the specific date.

23 Q. Did you have an opportunity to review the
24 original complaint in this action before it was

1 filed?

2 A. Yes.

3 Q. And did you provide any comments on that
4 complaint? Don't get into the substance, but did
5 you provide any comments?

6 A. I don't remember specifically, but if I had
7 comments, I would have provided them.

8 Q. In that original complaint you recall that
9 John Hancock did not include any allegations of
10 fraud or misrepresentations with regard to ABT-773,
11 correct?

12 MR. DAVIS: Objection. You can respond.

13 A. I'd have to read the complaint. I don't
14 know that we specifically referenced 773. We may
15 have referenced the program compounds generally.

16 Q. You don't remember specifically referencing
17 773?

18 MR. DAVIS: Objection. You may respond.

19 A. I don't remember that, no.

20 Q. Do you recall that John Hancock filed a
21 supplemental complaint in this action prior to this
22 first amended supplemental complaint?

23 A. I can't remember all the different motions.
24 You'll have to remind me as to specifically what

1 you're asking.

2 Q. Well, there was a supplemental complaint

3 filed that included allegations regarding section

4 3.3B. Do you recall that?

5 A. Actually, if this says "first amended," then

6 there must have been a supplemental complaint. This

7 is the amended supplemental complaint. And I do

8 remember that specific complaint regarding that

9 section.

10 Q. And did you also have an opportunity to

11 review that supplemental complaint before it was

12 filed?

13 A. Yes.

14 Q. And did you provide comments on that

15 complaint?

16 A. If I had them, I would have provided them.

17 Q. Do you recall that that complaint also did

18 not include any allegations of fraud or

19 misrepresentation with respect to ABT-773?

20 MR. DAVIS: Objection.

21 A. I don't remember whether it did or not

22 specifically.

23 Q. And getting to Exhibit 42, the first amended

24 supplemental complaint, did you have an opportunity

1 to review this version of Hancock's complaint before
2 it was filed?

3 A. Yes.

4 Q. And did you provide comments on this draft?

5 A. If I had comments, I would have provided
6 them.

7 Q. And did you attempt to include in this first
8 amended supplemental complaint all allegations
9 that -- all claims that you thought John Hancock had
10 against Abbott?

11 MR. DAVIS: Objection. You say "did
12 he." He didn't draft the complaint.

13 Q. Did you attempt to verify that all claims
14 that you had -- you believe that Hancock had against
15 Abbott were included in this complaint?

16 MR. DAVIS: Objection. You can respond.

17 A. I just don't know if when one is an amended
18 supplemental complaint, if it -- I just can't
19 remember if it includes all complaints or just the
20 amended complaints or amended allegations that we
21 have in here.

22 Q. But if you believed at the time this first
23 amended supplemental complaint was filed that
24 Hancock had additional claims or additional

1 allegations to make against Abbott, you would have
2 suggested including them in this complaint, wouldn't
3 you have?

4 MR. DAVIS: Objection.

5 A. If I was aware of additional allegations
6 that were not in the complaint, I believe that I
7 would have pointed that out to our counsel.

8 Q. Just a moment ago you testified with respect
9 to some statements in the research funding agreement
10 that you believe were false or misleading. The
11 first one you mentioned was the expected launch date
12 of first quarter 2004.

13 Do you see any allegation in the first
14 amended supplemental complaint regarding any false
15 or misleading representations by Abbott regarding
16 the launch date of ABT-773?

17 MR. DAVIS: Are you saying specific
18 allegations or allegations within which that would
19 fall?

20 MR. LORENZINI: Any allegations at all.

21 Q. You may want to direct your attention to
22 page 15 to 16, paragraphs 29 through 30, although
23 feel free to look at any portion of the complaint
24 that you'd like.

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1 A. There is not a specific reference to the
2 launch date. There is -- It starts by saying,
3 "misrepresented the development status of ABT-773."
4 I believe that that phrase is used later on, which
5 would encompass launch date as well.

6 Q. Is there any reason why John Hancock didn't
7 specify in its complaint that it believed there was
8 misrepresentations regarding the launch date?

9 MR. DAVIS: Objection. I caution you
10 that if you had any discussion with counsel on the
11 topic, that you should not disclose that. It would
12 be privileged.

13 A. I don't believe that at the time of this
14 filing that I was aware that the launch date had
15 been delayed.

16 Q. How did you become aware of the alleged
17 discrepancy in the launch date?

18 A. Through looking at discovery documents.

19 Q. And do you recall when you saw documents
20 that you believed reflected some misrepresentation
21 regarding the launch date?

22 A. I believe -- I may have seen the documents
23 in the past, but I believe it came to my attention
24 sometime in the last just generally two weeks,

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1 maybe. A week to two weeks. I don't remember a
2 specific.

3 Q. And what particular documents did you --
4 document or documents did you see that caused you to
5 believe that there may have been misrepresentations
6 regarding the launch date?

7 A. I don't remember the specific document names
8 or even if there were specific document names, but
9 there was, I believe, one document which -- it was a
10 February of 2001 document that described, for lack
11 of a better term, the status of the compound, and
12 then there was, I believe, a March of 2001 -- it
13 looked like a PowerPoint kind of a presentation that
14 also was, for lack of a specific term, just
15 describing the development status of the compound.

16 Q. And you mentioned that those were documents
17 that you may have seen previously but hadn't focused
18 on with respect to that particular issue until a
19 couple weeks ago?

20 A. That's correct.

21 Q. And where had you seen those documents
22 previously? Had you seen them in the audit that
23 Hancock conducted of Abbott?

24 A. I'm not sure if I actually did see them

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1 before, but I don't remember -- I just don't

2 remember specifically when I saw them.

3 Q. And you don't know when those documents were

4 produced by Abbott to John Hancock?

5 A. I don't.

6 Q. They weren't just produced to Hancock two

7 weeks ago?

8 MR. DAVIS: Objection.

9 A. That I don't -- I don't even know that.

10 MR. DAVIS: They are 773 documents and

11 they were only produced, as you may recall, because

12 Abbott was withholding 773 documents within the last

13 month.

14 MR. LORENZINI: We weren't withholding

15 documents. 773 wasn't part of the case until the

16 complaint was amended.

17 MR. DAVIS: You agree Abbott recently

18 made a production regarding 773 documents?

19 MR. LORENZINI: I don't know what you

20 define as recently. I think it was a couple months

21 ago. I'll also remind you that Abbott produced a

22 large number of documents regarding 773 prior to

23 that production, long prior.

24 MR. DAVIS: I --

1 MR. LORENZINI: Well, there was also a
2 lot of documents produced in the audit.

3 No sense arguing this now.

4 MR. DAVIS: I agree with that.

5 Q. You also mentioned that you believed -- you
6 believe now that there were some issues regarding
7 Abbott's ability to claim resistance with respect to
8 ABT-773. In other words, issues regarding the
9 ability to claim that ABT-773 was effective in
10 fighting resistant strains of bacteria; is that
11 correct?

12 A. Yes. And whether there would be significant
13 trials that they may have to undertake to -- if they
14 could get that claim, to undertake to get that
15 claim.

16 Q. And is that mentioned in Hancock's first
17 amended complaint?

18 MR. DAVIS: Objection. You may respond.

19 A. I would give you just generally the same
20 answer that I gave on that -- on the previous point,
21 which is that we state that Abbott misrepresented
22 the development status of ABT-773 to John Hancock,
23 that that specific issue is not raised
24 specifically -- I hate to use the word over and over

1 -- it's not raised specifically in this paragraph.

2 Q. Or anywhere in the complaint, for that
3 matter?

4 A. I don't believe so. Correct.

5 Q. When did you first believe that Abbott had
6 not disclosed issues regarding their ability to make
7 a resistance claim?

8 A. I believe that it was in a similar time
9 frame, although I would say that it was -- I'm
10 sorry. Similar time frame to the discussion about
11 the launch date, although I believe it was probably
12 in the last month or so as opposed to in the last
13 week or two.

14 Q. And what led you to believe that there may
15 have been issues -- undisclosed issues regarding
16 Abbott's ability to make a resistance claim?

17 MR. DAVIS: Objection. I instruct you,
18 to the extent your information is based on
19 communication with counsel, you should exclude that
20 from your response.

21 A. My basis is from the same documents that I
22 referenced earlier.

23 Q. And you don't know when those documents were
24 originally produced by Abbott?

1 A. I don't, no.

2 Q. You don't know if they were produced in the
3 audit?

4 A. I don't.

5 Q. What documents were they that raised this
6 issue in your mind?

7 MR. DAVIS: Objection. Asked and
8 answered. You can respond.

9 A. I believe the documents -- the February
10 document that I referenced earlier and the March
11 document that I referenced earlier.

12 Q. Was this February 2001 document, was it a
13 monthly status report?

14 A. I don't recall that there was a heading on
15 the document, so I don't know.

16 Q. Did the first page of the document include
17 various boxes with summary information, including a
18 bar chart in the lower left-hand corner?

19 A. I don't recall.

20 Q. Can you describe the document at all?

21 A. No. The March one I recall as being like a
22 PowerPoint kind of presentation, but the February
23 document, it just was just like a regular document.
24 I don't remember any --

1 Q. Was it a memo?

2 A. That wasn't a clear answer. There was no --

3 I don't recall that there was, like, a heading to

4 the document. I don't know if it was a memo.

5 Q. Was there anyone's name on it?

6 A. I don't know if people's names are mentioned

7 in the document. There may be people's names

8 mentioned in the document. I just don't remember if

9 it was -- I don't recall it saying to someone or

10 from someone. It may have said that, but I don't

11 recall it saying that.

12 Q. And did the March PowerPoint presentation

13 have a title?

14 A. It did, but I don't remember what it was.

15 Q. You also mentioned that you believe there

16 were misrepresentations or misleading statements

17 regarding the dosing of ABT-773. Dosing issues

18 aren't mentioned at all in the first amended

19 supplemental complaint regarding ABT-773, correct?

20 MR. DAVIS: Objection.

21 A. Again, I would characterize that as the

22 development status. And there is reference to -- in

23 the complaint or -- yeah, the complaint, that we --

24 due to -- the wording in paragraph 29 is, "due to

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1 its competitive" and then, in quotes, "convenience,
2 safety and tolerability." So to me dosing would be
3 related to convenience.

4 Q. Is there some reason why you didn't specify
5 the dosing issue in the complaint?

6 MR. DAVIS: Objection. Same
7 instruction, Mr. Blewitt. To the extent you were
8 disclosed communications with counsel in your
9 response, you should not include that.

10 A. I don't recall why the word "dosing" is
11 not -- the specific word "dosing" is not in here.
12 And sitting here today, I'm not even certain as to
13 when I became aware that there was -- there were
14 issues regarding dosing, so whether it would have
15 been in this time frame or not.

16 Q. Do you know how you became aware of issues
17 regarding dosing?

18 MR. DAVIS: Same instruction.

19 A. I'm not specifically certain. I do recall
20 issues of dosing being in one or both of the
21 documents that I -- just for lack of a better term,
22 the February document and the March document that I
23 referred to before, but I don't know if there were
24 other areas where I would have known about that and

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1 when I would have known about that.

2 Q. You knew based on the annual development
3 plan that was attached to the research funding
4 agreement that dosing on ABT-773 was not going to be
5 QD across the board, correct?

6 MR. DAVIS: Objection.

7 A. I knew that, depending upon the severity of
8 an indication, that there may be BID dosing, but my
9 understanding was that it was to be QD for all
10 indications.

11 Q. But you did understand as of the time you
12 executed the agreement that Abbott would also be --
13 Abbott was also expecting to use BID dosing in some
14 instances?

15 MR. DAVIS: Objection.

16 A. For different severities, that BID would
17 be -- could be used.

18 Q. And you didn't believe it was a certainty at
19 the time of the agreement that Abbott would be able
20 to achieve its target of once a day dosing, did you?

21 MR. DAVIS: Objection.

22 A. Well, nothing in life is a certainty.
23 That's why you do clinical trials, et cetera. There
24 was nothing that Abbott made me aware of that they

1 were concerned that QD was not going to be the
2 dosing that they were going for in all indications.

3 Q. So you understood that QD dosing was
4 Abbott's goal?

5 MR. DAVIS: Objection. You can respond.

6 A. I understood it to be their goal. And I was
7 not aware that there was any reason why they were
8 not going to achieve that goal.

9 Q. But you knew, as with any aspect of any drug
10 in development, there was some uncertainty regarding
11 whether they would achieve that goal?

12 MR. DAVIS: Objection. You may respond.

13 A. As I mentioned, there's uncertainty as it
14 relates to everything. So that's why you do
15 clinical trials. But again, there was nothing that
16 Abbott made me aware of that they had concerns that
17 they were not going to achieve the QD dosing in all
18 indications.

19 MR. DAVIS: We've been going over an
20 hour now.

21 MR. LORENZINI: Do you want to take a
22 break?

23 MR. DAVIS: For a few minutes.

24 (Recess taken)

1 Q. Mr. Blewitt, one of the other issues you
2 mentioned that you believed there were false or
3 misleading statements regarding was IV formulation.

4 A. Yes.

5 Q. There's no mention of any IV formulation
6 issues in the first amended supplemental complaint,
7 is there?

8 A. There's discussion regarding the development
9 status of ABT-773, which would include both tablet
10 and IV.

11 Q. And why do you say development status would
12 include that? There's no mention of IV in that
13 sentence, is there?

14 MR. DAVIS: Objection.

15 A. There's the word -- I don't know if it's a
16 word, but ABT-773, which was supposed to be in a
17 tablet and an IV formulation.

18 Q. Right. But Hancock chose not to include any
19 allegations regarding IV formulation in its first
20 amended complaint, correct?

21 MR. DAVIS: Objection. I think you're
22 misstating what the document says. It says, "Abbott
23 misrepresented the development status of ABT-773 to
24 John Hancock prior to, and at the time of, the

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1 execution of the agreement." And that would include
2 misrepresentations regarding Abbott's plans for IV
3 formulation.

4 MR. LORENZINI: Thank you for that
5 testimony.

6 MR. DAVIS: I think -- I object. I
7 think you're misrepresenting what the complaint
8 says.

9 MR. LORENZINI: Objection noted.

10 Q. Mr. Blewitt, in fact, you chose not to
11 include any allegations -- any specific allegations
12 regarding IV formulation in the complaint, correct?

13 MR. DAVIS: Objection. You may respond.

14 A. The word "IV" actually may be somewhere in
15 this document, but it probably doesn't mean
16 intravenous. The term IV is not specifically in
17 here, but again, it would relate to the development
18 status of the compound ABT-773.

19 Q. When did you first believe that there might
20 be issues regarding the accuracy of Abbott's
21 statements regarding IV formulation?

22 A. I believe that it would -- it was in the
23 time frame of the last -- generally, the last month
24 or so.

1 Q. Are there particular documents that you saw
2 that led you to believe that there might be issues
3 regarding the IV formulation?

4 A. I believe that the February document and the
5 March document refer to concerns on the IV
6 formulation.

7 Q. And you don't know when those documents were
8 produced by Abbott?

9 A. No, I don't.

10 (Exhibit Number 43
11 marked for identification)

12 Q. The court reporter has marked as Exhibit 43
13 a letter from Tom Lyons to you dated December 18,
14 2001 with an attached annual progress report. Do
15 you recognize this letter and attachment?

16 A. My letter is dated the 20th, December 20th.

17 Q. I think I marked the wrong document.

18 MR. LORENZINI: Let's go ahead and mark
19 that as the next exhibit. We'll do them out of
20 order.

21 (Exhibit Number 44
22 marked for identification)

23 Q. Okay. Let's go out of order here. I'll ask
24 you about Exhibit 44 first. This is a document

1 dated December 18th, 2001 from Tom Lyons to you with
2 an attached annual progress report. Do you see
3 that?

4 A. Yes.

5 Q. And is this, in fact, a letter you received
6 from Tom lines?

7 A. I believe so.

8 Q. If you'll turn to the attachment, the first
9 heading is "ABT-773." You'll see the last sentence
10 of the ABT-773 section says, "Given study results
11 recently received, initiation and continuation of
12 further study for ABT-773 Tablet/IV is currently
13 under review." Did you have any communications with
14 Abbott regarding the continued development of
15 ABT-773 around the time of this letter from
16 Mr. Lyons?

17 A. I believe so.

18 Q. And who did you have those communications
19 with?

20 A. I believe that I spoke to Mr. Deemer.

21 Q. And was that before this letter or
22 afterwards?

23 A. I don't know. I don't know if the --

24 December 18th is the date of the letter and then

1 December 26th is apparently when I received -- or at
2 least my office received it.

3 I don't know if I had the conversation
4 before the 18th, in between these two dates or after
5 the 26th.

6 Q. And was this a telephone conversation?

7 A. Yes.

8 Q. Was anyone else on the call?

9 A. Not on my end. And I don't remember if
10 there was anyone else on Abbott's end.

11 Q. How long was the conversation?

12 A. Fairly short, but I don't -- five minutes,
13 ten minutes.

14 Q. And did you discuss just ABT-773 or other --

15 A. That I don't remember.

16 Q. And what did Mr. Deemer tell you, if
17 anything, on the call about ABT-773?

18 A. I don't remember specifically what he told
19 me, but I remember -- I remember having a
20 conversation with Mr. Deemer regarding ABT-773 where
21 he indicated that there were -- that they had some
22 concerns and that they were continuing to evaluate,
23 similar to what is said in this letter, the annual
24 progress report.

1 Q. So you don't recall anything Mr. Deemer said
2 other than sort of a summary of what's in this
3 report here?

4 MR. DAVIS: Objection. You may respond.

5 A. At this time I don't recall.

6 Q. Did you say anything to Mr. Deemer during
7 that call regarding ABT-773?

8 A. Yeah. I had to at least say hello, I
9 presume, but I don't remember specifically if the
10 conversation had anything to do with -- anything
11 more than ABT-773. I don't remember if I had a
12 specific response or specific questions as it
13 related to information he may have been telling me
14 about ABT-773.

15 Q. Do you remember any general response you
16 had?

17 A. No, I don't remember.

18 Q. Why don't you turn back to Exhibit 43, which
19 is the letter from Tom Lyons to you dated December
20 20th, 2002 attaching an annual progress report as
21 well as a budget estimate. Do you recognize this as
22 a letter and set of attachments that you received
23 from Mr. Lyon?

24 A. Yes.

1 Q. Turn, please, to the second page of the
2 first attachment. It's page JH 000809.

3 A. Okay.

4 Q. You'll see there it says, "As a result of
5 FDA concerns with safety requirements of the
6 Anti-Infective Therapeutic Class, the FDA made clear
7 to us its expectation regarding additional clinical
8 work required to complete the development of
9 ABT-773.

10 "Due to the magnitude and duration of
11 the additional investment required, a decision was
12 made July 2002 to seek a licensing partner in the
13 U.S. and Europe and not to independently advance the
14 compound in these markets.

15 "We are currently in late stage
16 negotiations with a partner and have also been
17 working with John Hancock to that extent."

18 Did you have any telephone
19 communications or in-person communications with
20 Abbott regarding ABT-773 at or around the time of
21 this letter?

22 A. I don't remember the specific timing. My
23 general recollection is that it may have been a
24 month or two earlier, but it may have extended up to

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1 this point to where there was discussions regarding
2 outlicensing the compound to a firm called Elitra.
3 So I believe that that was happening. I thought it
4 was a little bit before this, but I might be wrong
5 about the timing.

6 Q. Did you have any telephone conversations
7 with Abbott regarding Abbott's reasons for
8 terminating internal development of ABT-773?

9 A. I don't remember specifically. I believe
10 that I would have, but I don't remember
11 specifically.

12 Q. You don't remember the substance of any such
13 conversations?

14 A. No.

15 Q. You'll recall that Abbott eventually
16 outlicensed ABT-773 to Advanced Life Sciences?

17 A. Yes.

18 Q. And is it your understanding that if
19 Advanced Life Sciences successfully develops
20 ABT-773, that John Hancock will be entitled to a
21 portion of the royalties from that compound?

22 MR. DAVIS: Objection. You can respond.

23 A. If Advanced Life Sciences is successful -- I
24 guess I would characterize it a little bit

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1 differently. I believe we would get royalties under
2 our agreement.

3 When you said "a portion," I believe
4 Abbott is getting royalties from Advanced Life
5 Sciences. So I'm not sure -- I wouldn't
6 characterize it that we're getting a piece of their
7 royalties. I would just say we're getting royalties
8 from them.

9 Q. So just to clarify, Abbott would receive
10 royalties from Advanced Life Sciences and then John
11 Hancock would receive payments from Abbott pursuant
12 to the terms of the research funding agreement?

13 A. Yes.

14 Q. Does John Hancock currently have any
15 projections of the expected -- of the probability of
16 Advanced Life Sciences taking ABT-773 to market?

17 A. In the models that we use today we are, I
18 believe, using a 40 percent -- I believe a 40
19 percent approval level.

20 Q. Meaning John Hancock is currently projecting
21 a 40 percent probability that ABT-773 will be
22 approved and will enter the market?

23 A. I believe that's correct.

24 Q. And what is that probability assessment

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1 based on?

2 A. It's based on the -- Looking at the
3 compound, although it's in a phase III clinical
4 trial, there have been issues in terms of Abbott's
5 development in phase III. So I believe that in our
6 models what we've used is more like a phase II
7 probability of successful -- successfully launching
8 the compound.

9 Q. When was the last time that John Hancock
10 updated its projections of the probability of
11 success of ABT-773?

12 A. It would have been -- Well, I don't know
13 that we've updated it since -- I'm not sure of the
14 specifics. At some point in time when Advanced Life
15 Sciences started the phase III clinical trials, I
16 think it was at that point that we started using the
17 40 percent level and have not -- I don't believe
18 we've updated it since then.

19 Q. Just to be clear for the record, I've been
20 referring to ABT-773 in these last few questions.
21 Do you understand now that since the drug is being
22 developed by Advanced Life Sciences, it goes by a
23 different name?

24 A. Yeah. Advanced Life Sciences has it under a

1 different name, but --

2 Q. But you understand when I refer to ABT-773,
3 I'm referring to the compound regardless of what
4 name it's currently referenced by?

5 A. Yes.

6 Q. What is John Hancock's current projection of
7 the peak sales of ABT-773?

8 A. I believe it's around \$200 or \$250 million.

9 Q. And how did John Hancock arrive at that
10 estimate of peak sales?

11 A. I can't remember specifically, but it was --
12 I believe one of the factors we looked at was a
13 compound we've mentioned before, Cubicin, which is
14 an anti-infective.

15 It's a different compound, but it's
16 somewhere in the \$200 million to \$250 million range.
17 I believe that we looked at that as a possibility.
18 There may have been other things that we looked at.

19 Q. And just to be clear, who has performed the
20 most recent estimates of the probability of success
21 and expected revenues from ABT-773?

22 A. I have.

23 Q. And I sort of asked you this before, but I'm
24 not sure I got an answer. What is your best

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1 estimate of the date that you last performed that
2 analysis?

3 A. Well, the question you asked me was when was
4 it last updated. And I did answer that question.

5 Q. You said it was as of the time that ALS
6 brought the compound into phase III?

7 A. Yes. I believe so, yes.

8 Q. Do you recall what date that was,
9 approximately?

10 A. For whatever reason, I think I remember
11 January 5th, but I don't remember what year that
12 would be. So it wasn't '07. It may have been '06.

13 Q. And does -- In your most recent analysis of
14 ABT-773, have you broken out probabilities of
15 success and/or peak sales based on tablet versus IV
16 form?

17 A. No.

18 Q. So it's just overall probabilities and
19 expected revenue?

20 A. Yes.

21 Q. What is the -- in this most recent analysis,
22 what is the expected net present value of ABT-773?

23 MR. DAVIS: Objection. When you say
24 "expected net present value," are you saying -- you

1 mean, estimated or are you asking for some sort of
2 success weighted --

3 Objection. I think it's unclear. You
4 can respond.

5 A. The easy answer is, I don't believe that
6 I've calculated an NPV.

7 Q. In doing the calculation, these recent
8 calculations for ABT-773, have you used that Monte
9 Carlo simulation that has generally been used for
10 the program compounds in the past?

11 MR. DAVIS: Objection. You can respond.

12 A. Yes.

13 Q. So you've just plugged in different
14 assumptions into that Monte Carlo simulation?

15 A. I think I've plugged in -- and I'm not 100
16 percent certain of the numbers, but I believe I
17 plugged in the 40 percent and the \$200 or \$250
18 million in peak sales.

19 Q. And do you have on your computer a version
20 of the Monte Carlo simulation that includes these
21 most recent figures for ABT-773?

22 A. I don't know.

23 Q. Do you know where those -- where that Monte
24 Carlo simulation exists?

1 A. Well, I could have used a prior model and
2 just plugged in the numbers and not saved it.
3 That's the reason for my answer that I don't know.

4 Q. So it's possible you inserted -- Okay.
5 Strike that.

6 After you did that analysis, did you
7 prepare any sort of report reflecting the
8 probability of success and the expected revenues?

9 A. Yes.

10 Q. And what report was that?

11 A. I don't know what the official name is, but
12 I think of it as our quarterly loan review report.

13 Q. And who is that report distributed to?

14 A. I don't know the individuals, but it's the
15 loan review committee.

16 Q. Do you know if that document has been
17 produced in this litigation?

18 A. I know we've produced loan review reports.
19 I don't know -- The last one that we would have
20 completed would have been about a month or so ago.
21 I don't know if that's been produced or not.

22 Q. Do you know if you produced the 2006 loan
23 report?

24 A. It's a quarterly report.

1 Q. Do you know if you produced any of the loan
2 review reports for 2006?

3 A. I don't -- If I've been asked for it, I've
4 produced it, but I don't know if I've been asked for
5 it. If someone has asked me for it.

6 (Exhibit Number 45
7 marked for identification)

8 Q. Mr. Blewitt, you have before you what's been
9 marked as Exhibit 45. It is a document produced to
10 us by John Hancock. Actually, strike that.

11 MR. LORENZINI: Can we take a short
12 break, five minutes.

13 (Recess taken)

14 (Exhibit Number 46
15 marked for identification)

16 Q. Mr. Blewitt, you have before you two
17 exhibits now. One is Exhibit 45, marked JH2021462,
18 and the other is Exhibit 46, which is designated
19 JH2021647 through 49.

20 Exhibit 46 was just produced to us
21 yesterday by John Hancock. I'm going to ask you
22 about Exhibit 46 first.

23 A. Okay.

24 Q. This is a set of three documents with

1 different dates in the upper left-hand corner with
2 the title "GBSA spreads to on-the-run Treasuries."

3 Are these different versions of a
4 document referred to internally at Hancock as "the
5 curve"?

6 A. I believe so, yes.

7 Q. And is this document used -- Is it okay if I
8 just refer to it as "the curve"?

9 A. Okay.

10 Q. Is the curve used by John Hancock to
11 determine what the spread is in the market for bonds
12 at various credit ratings?

13 MR. DAVIS: Objection. You can respond.

14 A. I would characterize it differently. I
15 would say that the curve is a pricing model to show
16 spreads by credit quality and by, I believe it's
17 average life but not -- The way you -- Your question
18 was related to if it's showing the prices in the
19 market for bonds. And I don't believe that this is
20 actually showing where the market is pricing bonds.

21 Q. Okay. Let me just ask some background
22 questions. Back in 2000 to 2001, who was
23 responsible for creating and updating the curve?

24 A. I believe that it came out of our -- the

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1 bond and corporate finance group's portfolio
2 management group.

3 It could have been another part of the
4 investment operations, but I believe it came out of
5 the portfolio management team for the bond and
6 corporate finance group.

7 Q. And was there a particular individual at
8 that time who was responsible for this document?

9 A. I don't know who was specifically
10 responsible for producing it.

11 Q. And was the curve updated approximately
12 weekly?

13 A. It may have been updated weekly or
14 potentially more frequently if necessary.

15 Q. And just look back, please, at Exhibit 45.
16 Is this simply another version of the curve from a
17 different date?

18 A. Yes, that's what it appears to be.

19 Q. Who was the curve distributed to within
20 Hancock during this 2000 to 2001 period?

21 A. Well, I think it went to the portfolio
22 managers in the bond and corporate finance group.
23 There may have been other individuals outside of the
24 bond and corporate finance group who got it, but I'm

1 not certain about that.

2 Q. Did you receive a copy of the curve back in
3 the 2000, 2001 period?

4 A. I don't know if I would have received -- I
5 would have seen the curve from -- at different times
6 if I was meeting with a portfolio manager, but I
7 don't know that I was on any distribution list for
8 it.

9 Q. But you did have occasion to see the curve?

10 A. Yes.

11 Q. And how often did you see -- How often did
12 you have occasion to reference the curve during that
13 2000, 2001 period?

14 A. I don't know the answer to that.

15 Q. And within Hancock how was the curve used?

16 MR. DAVIS: Objection. You can respond
17 to the extent that you know how you used it.

18 A. Right. I mean, from my perspective, it was
19 used by the portfolio managers as a piece of
20 information that could be used in pricing a bond
21 transaction that we were looking at either buying or
22 potentially even selling.

23 Q. And was it also consulted by people within
24 Hancock in considering whether to -- Strike that.

1 Was it also consulted by people within
2 Hancock in considering the appropriate pricing for a
3 private equity transaction?

4 MR. DAVIS: Objection. You're asking
5 him if it was ever done, ever consulted by people in
6 Hancock for that purpose?

7 MR. LORENZINI: Yes.

8 MR. DAVIS: Objection. If you know
9 that.

10 A. I don't know. There's no private equity --
11 If you look down about credit qualities going from
12 AAA down to CAA, there's no category for private
13 equity transactions. Whether someone would have
14 extrapolated or used this in some way to evaluate a
15 private equity, I don't know.

16 Q. Well, John Hancock often calculated a credit
17 rating for private equity transactions, correct?

18 MR. DAVIS: Objection. You can respond.

19 A. No, I don't -- I wouldn't say that's
20 correct.

21 Q. Would you characterize the deal with Abbott
22 as a private equity transaction?

23 A. It's a -- I think we categorized it as a
24 project finance equity, but it's an unusual

1 transaction in that you don't actually own equity
2 security. So it's technically not an equity
3 transaction.

4 But I believe in our records we, I
5 believe, called it a project finance equity
6 transaction.

7 Q. And on project equity finance projects
8 Abbott -- Strike that -- Hancock calculated a credit
9 rating for the transaction, correct?

10 MR. DAVIS: Objection.

11 A. So specifically for the Abbott transaction?

12 Q. We can talk specifically about Abbott.

13 A. I wasn't sure what the question was. But
14 for the Abbott transaction, I know that we
15 calculated a level of risk that was equivalent to a
16 credit rating. I don't know that when we put it on
17 our books, whether we actually put a credit rating
18 on the books or not.

19 Q. Well, since Abbott -- Strike that.

20 Since Hancock calculated a credit rating
21 for the Abbott transaction, it could have consulted
22 the curve to help determine the appropriate pricing
23 for that credit rating, correct?

24 MR. DAVIS: Objection.

1 A. Well, just to go back a second, I think what
2 I said was I'm not sure we actually put a credit
3 rating on the transaction. So we calculated a level
4 of risk associated with the transaction that was I
5 think equivalent to a credit rating.

6 But at the end of the day when it went
7 on the books, I'm not sure if we actually put a
8 credit rating on it.

9 Q. Well, your yellow report to the bond
10 investment committee included a credit rating for
11 the transaction, correct?

12 A. I'd have to see it.

13 (Exhibit Number 47
14 marked for identification)

15 Q. Mr. Blewitt, the court reporter has marked
16 as Exhibit 47 the report from you and Mr. Hartz to
17 the bond investment committee. Is this, in fact, a
18 copy of the report that you and Mr. Hearts drafted
19 for the bond investment committee?

20 A. It appears to be, yes.

21 Q. And if you look down at the last paragraph
22 on the first page, you'll see a statement that John
23 Hancock is assigning a Ba1 credit rating to the
24 transaction.

1 A. I'm sorry. Where do you see that?

2 Q. The last paragraph of Exhibit 47.

3 MR. DAVIS: Objection. You can respond.

4 A. What I see is, this is approximately
5 equivalent to a 60 basis point annual loss over five
6 years, or Ba1 credit rating.

7 Q. And then if you look on the second page,
8 there's a heading that says, "Issue Rating, JH:
9 Ba2." Does that refresh your recollection that John
10 Hancock assigned a Ba2 credit rating to the Abbott
11 transaction?

12 A. Again, to be clear, there is -- there looks
13 like there is a discrepancy between the Ba1 and the
14 Ba2, but at the end of the day when it actually went
15 on our books, I don't know if we assigned an actual
16 credit rating to the transaction.

17 Q. That would be reflected in the accounting
18 statements?

19 A. It would be, I believe -- I don't know.

20 Q. Do you know which credit rating is correct,
21 by the way, for the Abbott transaction?

22 MR. DAVIS: Objection.

23 A. Which we thought it was equivalent to?

24 Q. Right.

1 A. At this point I don't remember.

2 Q. Okay. Turning back to Exhibit 46, I just
3 want to walk through this a bit. There are a series
4 of numbers in the top row. What do those numbers
5 represent, starting with 205 or 8. I can't read it.

6 A. I'm not certain I know what those --

7 Q. Is it the average spread, perhaps?

8 A. Well, I don't know. I see down in the
9 middle of the page where for a 10-year there's --
10 271 is about the 10-year in that first line that
11 you're referring to. In the middle of the page we
12 have 271, which is the 10-year pricing spread. But
13 I'm not sure what that refers to in terms of
14 different credit qualities.

15 Q. Okay. Well, moving on to the next row down,
16 there's a series of years listed there from 2 years
17 to 30 years.

18 A. Yes.

19 Q. Does that represent the average life of the
20 bond?

21 A. I believe so, yes.

22 Q. And going down the left-hand column, there's
23 a series of letters beginning with AAA going down to
24 CAA. Does that represent the credit rating for the

1 bonds?

2 A. Yes.

3 Q. And then what are the numbers in the middle

4 of this matrix between the letters on the left and

5 the years across the top?

6 A. I believe that that's a calculation of a

7 spread to what is called the on-the-run Treasuries

8 for --

9 Q. What -- Excuse me.

10 A. I was going to finish, for each by credit

11 quality and average life.

12 Q. And what's an on-the-run Treasury?

13 A. An on-the-run Treasury, I believe, is the

14 Treasury that is most actively traded close to the

15 average life.

16 Q. And can you explain what you mean by

17 spreads?

18 A. It would be an amount of basis points that

19 would be added to the on-the-run Treasury.

20 Q. Added to the on-the-run Treasury for bonds

21 of that credit rating and that average life?

22 A. Yes.

23 Q. So in other words, at the time of September

24 18 through September 25th, 2000, the spread on bonds

1 rated Ba1 with a 15-year life would be 298?

2 A. 15 or average life, yes.

3 Q. And that's in basis points?

4 A. Yes.

5 Q. So it would be equivalent to 2.9 percent --

6 2.98 percent?

7 A. Yes.

8 Q. And then how would you determine from this
9 curve what the yield on a Treasury bond would be, a
10 15-year Treasury?

11 MR. DAVIS: You're asking the actual
12 yield on a 15-year Treasury bond at that point in
13 time?

14 MR. LORENZINI: The effective yield.

15 A. Well, I see, again, in the middle of the
16 page -- and I can't read it too well -- it looks
17 like for a 10-year Treasury, it looks like 5.89
18 percent, but I don't see on-the-run Treasuries for
19 any other time frame.

20 Q. Could you interpolate a yield for a 15-year
21 Treasury based on this curve?

22 MR. DAVIS: Objection.

23 A. No.

24 Q. In John Hancock, in your typical practice,

1 how would you determine the appropriate pricing for
2 a bond with a 15-year average life and a Ba1 credit
3 rating?

4 A. Well, are you saying what price would we buy
5 a Ba1 -- a 15-year average life Ba1 bond?

6 Q. That may be a slightly different question,
7 but how would you use this curve to determine
8 whether to buy a bond with a 15-year average life
9 and a Ba1 credit rating?

10 A. Well, it would be an input or a piece of
11 information that you would look at. You'd obviously
12 also need to know the Treasury yields in addition to
13 the spread.

14 But you would want to know if -- where
15 the bonds are trading. If it's a freely tradable
16 bond, where the bond is trading in the market, you'd
17 want to know probably what industry the bond -- the
18 issuer is in. You may want to know is it a large
19 bond issuance, is it a billion dollar issuance or is
20 it a \$50 million issuance, how big of a piece are
21 you looking to buy.

22 I don't know. Those are a bunch of the
23 different factors that you would use. So you would
24 use this with a bunch of those other factors in

1 trying to determine -- you know, what are comparable
2 companies and how are they trading in the market.

3 So is this a good bond relative to other bonds.

4 Q. If a particular bond with a 15-year average
5 life and Ba1 credit rating was priced with a yield
6 equal to the 15-year Treasury yield plus the spread
7 listed here, which is 298, would that be considered
8 a good, fairly priced bond for Hancock to purchase?

9 MR. DAVIS: Objection. You can respond.

10 A. No, not necessarily.

11 Q. So the curve would not be determinative of
12 your decision of whether to purchase a bond?

13 A. That's right.

14 Q. So Hancock purchases bonds below -- with
15 yields -- expected yields below the spread as well
16 as above the spread, depending on other factors?

17 A. We try to buy more above the spread than
18 below the spread, but I think we've bought bonds
19 below the spread and above the spread.

20 Q. What are the numbers to the right-hand side
21 that say, "versus interpolated 'on-the-run,' needs
22 percentage 'ROE adjustments,'" and there's a series
23 of letters and numbers? Can you explain what those
24 columns represent?

1 A. Well, ROE is return on equity. I'm not
2 certain as to what the specific -- what these
3 specific adjustments are.

4 Q. Okay. Below that there's a heading "Rates
5 by Quality" and the spread and there's a series of
6 credit ratings and a column of numbers followed by
7 another column of numbers that says "spread." What
8 do those numbers represent in that section?

9 A. Well, the -- So the rate is -- The spread
10 appears to be the rate minus the 10-year Treasury,
11 which you can see over to the left. And it looks
12 like it's 5.89 percent.

13 So for instance, for that AAA bond in
14 the section that you showed me, that would be 790
15 minus the 589 would be 201. And that would tell you
16 the spread difference between that rate and the
17 10-year Treasury.

18 Q. Okay. So going down to Ba2, for example,
19 the rate -- the yield on a Ba2 bond would be 8.38,
20 which is equivalent to the 5.89 Treasury yield plus
21 the spread of 2.47?

22 A. Yes. I think that is mathematically what
23 is -- that section is doing.

24 Q. So does this reflect the fact that bonds

1 with a Ba2 credit rating at this time, September
2 2000, were priced in the market at an average of
3 8.38 percent yield?

4 MR. DAVIS: Objection.

5 A. No.

6 Q. What does that number represent, then, that
7 8.38 percent?

8 A. Well, I don't know how the spread -- If you
9 look at the 247 for that Ba2 that you referenced,
10 I'm not certain as to how that relates to -- in the
11 10-year chart -- I'm sorry -- in the bigger chart
12 for Ba2 on a 10-year, it references a spread of 308.

13 So there's 61 basis points difference
14 there, but that's not -- neither one of these would
15 be the spread for either this big chart or this
16 little chart would necessarily tell you where bonds
17 are being priced in a market at that specific point.

18 Q. Okay. So where does Hancock get the
19 information that is in this matrix at the upper
20 left-hand corner of the document between the credit
21 ratings and the average year?

22 MR. DAVIS: Objection. If you know.

23 A. I believe that these are calculated numbers
24 using information that is in the -- I believe that

1 it's in the box below in putting, like, the ROE and
2 the tax and the pricing default and all of that
3 information.

4 Q. And so these are numbers that Hancock
5 calculates. And do they reflect what Hancock
6 believes is the appropriate spread over Treasuries
7 for transactions with a certain credit rating and
8 average life?

9 MR. DAVIS: Objection.

10 A. No. I think that when you look at buying a
11 bond, you would look at all -- you would look at
12 this, but you would look at all those factors that I
13 mentioned before in terms of trying to determine
14 whether it's the appropriate -- I can't remember --
15 spread or price to buy a bond in the market.

16 Q. Well, other witnesses, including Mr. Hartz,
17 have testified that Hancock consulted the curve to
18 help guide their decision about whether to make an
19 investment. Not that there was any specific minimum
20 threshold rate of return, but if the expected return
21 on the investment was above -- at or above the
22 spread above Treasuries reflected in the curve, then
23 that would be considered a good investment to make.
24 If it was below that, then they might still make the

1 investment, but they would have to look at it a
2 little bit more closely. Is that consistent with
3 your understanding of how this curve is used?

4 MR. DAVIS: Objection. What kind of
5 investment are you talking about? A bond
6 investment?

7 MR. LORENZINI: If it's different for
8 different kinds of investments, you can clarify that
9 in your answer.

10 A. Well, just, again, referring to bond
11 investments, I guess I would say that Mr. Hartz did
12 not -- his answer wasn't fully elaborated in that
13 there's a lot going on today in the automotive
14 industry, for instance, with DaimlerChrysler selling
15 Chrysler and Ford and GM and issues that those guys
16 are having.

17 So you potentially could get -- I don't
18 know what Ford is rated. Let's say Ford is rated
19 Ba2. You could get a bond coming in for Ford --
20 Let's, for example, just say that this is today --
21 that Exhibit 46 is today's date.

22 For a 5-year you're at 311 basis points.
23 And a bond for Ford could come in and it could be
24 511 basis points. And you may say, Well, I don't

1 want to buy -- I don't think that's good value
2 because, A, maybe I'm concerned about the credit
3 rating may fall. Maybe I have too much Ford in my
4 portfolio or I have too much automotive in my
5 portfolio. Maybe I don't want to have to deal with
6 the headline risk of Ford in my portfolio.

7 There could be lots of different reasons
8 why it may not be a good purchase just simply
9 because the bond is priced at a spread of 311 -- of
10 above 311. And I think Mr. Hartz would agree with
11 me on that.

12 Q. Did you consult the curve at all in
13 considering whether to recommend approval of the
14 transaction with Abbott?

15 A. I don't know if I did.

16 Q. Do you know if Mr. Hartz did?

17 A. I don't.

18 Q. You knew generally -- Strike that.

19 You knew that the expected rate of
20 return on the Abbott transaction of 17.5 percent was
21 substantially above the spread over Treasuries for a
22 transaction with 15-year average life and a Ba1
23 credit rating, correct?

24 MR. DAVIS: Objection.

1 A. Well, you've got a couple of questions in
2 there. So --

3 Q. Let me break it out. You knew without even
4 looking at the curve that 17.5 percent rate of
5 return was substantially above the curve for a
6 transaction of that type, correct?

7 MR. DAVIS: Objection.

8 A. Abbott and I knew that 17 and a half percent
9 was -- well, I presume Abbott knew what Treasuries
10 were. I knew that it was substantially above
11 Treasuries. Again, I'm not sure if I consulted the
12 curve, so I don't know if I can tell you
13 specifically as it relates to the curve, but then
14 again, the curve is also for bond transactions. And
15 the Abbott transaction was a highly structured,
16 heavily negotiated transaction that was not a bond
17 transaction.

18 Q. If you'd turn to Exhibit 47, which is the
19 yellow report. Turn to page 11, please. You say in
20 that paragraph at the top that the Abbott
21 transaction "offers a substantial likelihood that we
22 will receive a long-term bond equivalent yield of
23 approximately 17.5 percent, which is substantially
24 greater than the inherent risk of the transaction."

1 That was a reference when you say it was
2 "substantially greater than the inherent risk of the
3 transaction" to the fact that 17.5 percent was
4 substantially greater than the return that would be
5 expected based on the implied credit rating of the
6 transaction, correct?

7 MR. DAVIS: Objection.

8 A. It was substantially higher than a bond with
9 that credit rating.

10 Q. In fact, if you look back to Exhibit 46, a
11 bond with a Ba1 credit rating and a 15-year average
12 life had a spread of 298 basis points. And if you
13 add that to the Treasury rate that's reflected on
14 Exhibit 46, you're at a little over 8 percent,
15 correct?

16 A. Well, I'd say it's closer to 9 percent.

17 Q. Well, I don't have a calculator, but
18 whatever 298 basis points plus 5.89 percent Treasury
19 yield --

20 A. 8.87 percent.

21 Q. That would be the yield on a Ba1 bond with a
22 15-year average life?

23 A. It may be what this spreadsheet says, but it
24 may not be where the market is pricing a bond. And

1 again, you have to look at A, is it a bond or not a
2 bond; but B, you have to look at all of the
3 different things that I outlined before.

4 Q. Right. But this is Hancock's calculation of
5 the spread above Treasuries for a bond of that type,
6 15-year average life with that credit rating?

7 MR. DAVIS: Objection. You may respond.

8 A. When you say it's Hancock's calculation, I
9 guess I would not -- I would tell you that it's not
10 what we calculated to be what we would buy any Ba1
11 bond. You have to look at lots of different factors
12 to determine -- You could have two Ba1 bonds of
13 15-year average lives and one may be attractive at
14 one spread and the other may not be attractive at
15 that same spread for lots of different reasons.

16 Q. Getting back to Exhibit 47, am I correct
17 that 17.5 percent was substantially greater than the
18 inherent risk of the transaction, that that
19 statement was a reference to the fact that 17.5
20 percent was substantially greater than the spread
21 over Treasuries for bonds with a Ba1 credit rating?

22 MR. DAVIS: Objection. You can respond.

23 A. I think that's part of it. I think that,
24 again, as it relates to the Exhibit 45 or 46 that

1 we're looking at, I'm not sure that it's
2 specifically relating to those spreads. I would
3 think that it would be looking at where transactions
4 of -- where bonds would be trading, but also that
5 you'd have to look at the fact that I believe,
6 again, that this was treated as equity. And you
7 would have to have additional yield in there for the
8 fact that it was an equity transaction. You'd have
9 to factor in that it was a large transaction. You
10 would have to look at that it was a highly
11 negotiated transaction.

12 So you'd have to look at lots of
13 different factors. So while this is saying that the
14 17.5 percent is substantially greater than the
15 inherent risk, I think you have to look at all those
16 other factors as well.

17 Q. Okay. But even factoring in all those
18 factors, it was substantially higher than the
19 inherent risk?

20 MR. DAVIS: Objection. You can respond.
21 Asked and answered.

22 A. Yeah. I'm not saying that this is an untrue
23 statement that we thought that at that yield, you
24 know, from our perspective, we did other analysis

1 regarding that yield, that we thought it was a fair
2 return. And in my conversations Abbott knew fully
3 the yield that we were looking at, and they thought
4 it was a fair return.

5 So all in all, we thought it was a fair
6 return and an attractive return.

7 Q. And when you said it was "substantially
8 greater than the inherent risk," do you recall at
9 this point what -- can you quantify at all what you
10 meant by "substantially greater" in terms of
11 percentage points or percentage rate of return?

12 A. I can't. I'm just looking to see if there's
13 other information that may help me.

14 MR. DAVIS: If you want to turn to page
15 13, for example.

16 A. Oh, the analysis. So here we're talking
17 about a 17 percent yield over a long period of time
18 as being reasonable and looking relative to a bunch
19 of other transactions that we saw in the market.

20 MR. LORENZINI: I'd like to mark another
21 exhibit.

22 (Exhibit Number 48
23 marked for identification)

24 Q. Mr. Blewitt, you have what's been marked as

1 Exhibit 48. It's titled "Schedule BA Project
2 Equity/Drug Investments." Is this a series of
3 spreadsheets that were used for calculating the
4 performance of the Abbott transaction? Obviously
5 portions of it have been redacted, but in the
6 unredacted portion, is this something that was used
7 by Hancock to calculate the performance of the
8 Abbott transaction?

9 MR. DAVIS: Objection.

10 A. I don't know if -- I'm not sure of the
11 context of all the different BA transactions that
12 are in here, but the -- what it indicates is the
13 specific transaction. It does put a rating category
14 in here, an average life for the transaction, a
15 target return.

16 On the first page it says that nothing
17 has been funded, and then it goes through an income
18 calculation and excess income and write-down.

19 So to the degree that you're looking at
20 income and excess income and write-downs, I think
21 that that could be broadly classified as
22 performance.

23 Q. Isn't it true that this document was used
24 internally at Hancock as part of the internal

1 evaluation of how well the bond and finance group's
2 investments were performing?

3 MR. DAVIS: Objection.

4 A. I'm not specifically sure how it was used.

5 Q. Do you know who created this document?

6 A. No.

7 Q. Have you seen it before?

8 A. Yes.

9 Q. When did you see it?

10 A. Sometime in the last month or so.

11 Q. And what was the circumstance?

12 A. In preparation for this deposition.

13 Q. Had you seen it before then? Obviously not
14 in the redacted form, but had you seen it in an
15 unredacted form?

16 A. I don't think so. I'm not 100 percent
17 certain, but I don't think so.

18 Q. You'll notice on the first page, for
19 example, although it appears on the other pages as
20 well, there's a listing of CCC target spread of 663?

21 A. Yes.

22 Q. And then a target return of 12.6 percent.

23 Why did John Hancock use in this spreadsheet a
24 target return of 12.6 percent for the Abbott

1 transaction?

2 MR. DAVIS: Objection. You can respond.

3 A. I don't know. I don't know if that was a
4 general return that they used for all project equity
5 transactions or if it was just a conservative return
6 expectation for this transaction.

7 I believe that the -- that it wasn't
8 always 12.6 percent.

9 Q. So Hancock used other target returns for
10 other transactions?

11 A. I'm not sure if we do or did or not.

12 Q. Isn't it true that John Hancock's target
13 return on the Abbott transaction was 12.6 percent?

14 MR. DAVIS: Objection. You may respond.

15 A. No. I think our expected return was -- I
16 believe it was 17.5 percent.

17 Q. Then why did Hancock use a target return of
18 12.6 percent in this analysis?

19 MR. DAVIS: Objection. Asked and
20 answered. You can respond.

21 A. My understanding is that we applied a
22 conservative, meaning a lower, expected or target
23 return for this transaction. It may have been
24 consistent with other project equity finance

1 transactions.

2 Q. So you think it -- at this time John
3 Hancock's target return on project equity
4 transactions in general was 12.6 percent?

5 A. That I don't know.

6 (Exhibit Number 49
7 marked for identification)

8 Q. Mr. Blewitt, the court reporter has marked
9 as Exhibit 49 a document which is Abbott's Rule
10 30(b)(6) notice of deposition of John Hancock with
11 respect to various topics. Have you seen this
12 document before?

13 A. I believe that I have. Let me think. I'm
14 certainly -- I'm certainly aware of it, and I
15 believe that I've seen it.

16 Q. Do you understand that you are -- that you
17 have been designated by John Hancock to testify on
18 its behalf regarding topics 1 through 3 of Exhibit
19 49? And you can take a moment to review those if
20 you'd like.

21 MR. DAVIS: I can confirm that, that he
22 has been designated by Hancock to testify regarding
23 topics 1 through 3 and only 1 through 3.

24 A. And that's my understanding.

1 Q. What did you do to prepare for your

2 deposition today on those three topics?

3 A. I had conversations with counsel. I

4 reviewed my deposition -- my last deposition. I

5 looked at additional documents that have come

6 through through the discovery process. And, for

7 example, I mentioned the February document and the

8 March document would be an example of that.

9 So just generally reviewed documents.

10 Q. And did you have any conversations with

11 anyone regarding -- anyone other than counsel to

12 prepare for deposition on those topics?

13 A. No.

14 Q. Is there anyone that you would have liked to

15 have spoken to to prepare for your deposition on

16 those topics that you didn't have a chance to speak

17 with?

18 A. I would say that the -- Let me just add

19 to -- I gave you sort of a general -- Actually, I

20 take it back. No. I think I did the proper level

21 of preparation.

22 Q. Okay. Could you pull from your stack there

23 Exhibit 42. You may want to reference that as we go

24 along.

1 MR. DAVIS: The complaint?

2 MR. LORENZINI: Yeah, the first amended

3 complaint.

4 Q. Why don't you read paragraph 26 of the first

5 amended complaint to yourself. It's Exhibit 42.

6 A. You know what, we're missing a page.

7 Q. I can just hand you mine.

8 A. Okay.

9 Q. Mine is not marked-up or anything. I'll

10 need it back, but just for you to review right now.

11 A. Sure.

12 (Pause)

13 A. Okay.

14 Q. You'll see in paragraph 26 of Hancock's

15 first amended complaint there's an allegation that

16 had John Hancock known the true development status

17 of ABT-518 before the agreement was executed, John

18 Hancock would have demanded different terms, such as

19 the substitution of another compound with a

20 comparable projected value or more favorable

21 financial terms with respect to the remaining

22 compounds or may not have entered the agreement at

23 all.

24 What different terms would John Hancock

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1 have demanded if it had known the "true development
2 status" of ABT-518 before the agreement was
3 executed?

4 A. Well, if we were aware that on 518 that a
5 clinical trial had been started and stopped and
6 Abbott did not disclose that to us and did not
7 disclose all of the issues that we indicate are
8 relative to ABT-594 and ABT-773, we would not have
9 done the transaction.

10 Q. I want to just stick for a moment with 518
11 alone. Forget for now about the other compounds
12 because this paragraph of Hancock's complaint only
13 references 518.

14 And I want to ask you, assuming nothing
15 else changed regarding two other compounds, in other
16 words, Hancock had at the time of the agreement all
17 the information that it, in fact, had at the time of
18 the agreement, nothing new, nothing less. Do you
19 understand?

20 A. I'm not sure I do because does that mean we
21 have been given all the truthful information?

22 Q. What I'm asking you to assume is that as of
23 the time you entered the agreement, we're setting up
24 a hypothetical scenario here, John Hancock had all

1 of the information that it actually had regarding
2 ABT-773 and ABT-594. The only thing that's changed
3 in this hypothetical scenario is that Hancock had
4 the information regarding the true development --
5 the "true development status of 518," what different
6 terms would John Hancock have demanded in that
7 scenario?

8 A. Well, I guess -- So in that scenario, if we
9 found out -- And I guess you could go down a couple
10 of different paths.

11 If we found out that the clinical trial
12 was stopped -- the ABT-518 clinical trial was
13 stopped -- started and stopped on our own, so we
14 somehow found out that Abbott was misrepresenting to
15 us, then it would be difficult to do the transaction
16 with someone who is misrepresenting material facts
17 to you.

18 If Abbott came to us and said, Well, we
19 started 5 -- we started the clinical -- I'm sorry we
20 didn't tell you, but we started the clinical trial
21 for 518 and we stopped it, but we're going to
22 restart it, but we're going to terminate it anyway,
23 I guess that would throw me back into the first
24 camp, which is we wouldn't do the transaction.

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1 If -- So if Abbott was planning -- If
2 they were hiding the ball, if you will, in terms of
3 not telling us about the clinical trials having
4 started and stopped and if they had put -- had
5 planned to terminate the program, I think if we
6 found out on our own without them telling us, there
7 would be serious concerns about integrity and
8 whether -- what else has not been told to us.
9 If they came to us and said, Hey, look,
10 we started, we stopped. We think we're going to
11 terminate this, I think then you could potentially
12 get into discussions about how would you redo the
13 transaction. But I think at that point in time the
14 truth about ABT-594 would have come out because they
15 were --

16 MR. DAVIS: Let him finish his answer,
17 please.

18 Q. Go ahead.

19 A. It was within -- I guess maybe they wouldn't
20 tell me the truth when the truth came out from the
21 clinical -- from the unblinded trials, but they knew
22 the development status of ABT-594 at that point
23 anyway.

24 So I'm making a lot of assumptions about

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1 when they're going to start telling me the truth.
2 But at that point in time we likely would not have
3 gotten to a conclusion for the financial terms or
4 substitution of compounds and wouldn't have ended up
5 doing the transaction then either.

6 Q. So in the situations you've just described,
7 the reason why you wouldn't -- why you don't believe
8 you would have gone forward with the transaction is
9 because you would have believed that Abbott was
10 misleading you after learning additional
11 information?

12 MR. DAVIS: Objection. You can respond.
13 You're saying that's the only reason, or are you
14 saying that is a reason?

15 Q. It seems to be the reason you're giving.

16 A. No. I'm sorry. I did not give a concise
17 answer. I was trying to break it into two separate
18 buckets.

19 One is, if we found out that, you know,
20 there were misrepresentations and that -- and we
21 found that out on our own and Abbott hadn't come to
22 tell us, Hey, look, we started this, we stopped it,
23 we're going to terminate it, let's talk about
24 redoing the contract, I believe that we would have

1 never done the contract.

2 If they came to us and said, Look, we --

3 I know what we've told you before, but we're going

4 through our files, we realize we started it, we

5 stopped it, and by the way, we're going to terminate

6 the compound, let's think about redoing the

7 agreement, it's possible that we would have started

8 talking about redoing the agreement at that point in

9 time.

10 And I guess my point was that other

11 facts about other of the compounds would have come

12 out and likely by the time you've renegotiated the

13 agreement, you would never have done the agreement

14 anyway.

15 Q. All right. I'm asking you to just bear with

16 me here and set aside the other compounds for now.

17 Just stick with this allegation in paragraph 26

18 because here Hancock is alleging solely that if you

19 had known the true development status of ABT-518,

20 you would have demanded different terms. It's no

21 reference to other compounds.

22 A. I understand --

23 MR. DAVIS: Hold on. Objection. What

24 it says is that they would have demanded different

1 terms or they may not have entered into the
2 agreement at all.

3 And so what I think Mr. Blewitt is
4 testifying to is that from Hancock's perspective,
5 they wouldn't have entered into the agreement at
6 all.

7 You can question him further. That's
8 what he said several times now. You can ask him
9 again.

10 Q. There's the one scenario where you find out
11 on your own additional so-called facts, but I want
12 to -- I'll address that separately.

13 In the other scenario where Abbott
14 informs you itself of the facts that you believe
15 existed, is it your testimony that Abbott would have
16 continued to negotiate regarding restructuring the
17 transaction if that was the only new information
18 available to it?

19 MR. DAVIS: Objection.

20 Q. If it didn't know anything differently than
21 it actually did at the time of the contract
22 regarding 594, that Hancock would have pursued
23 renegotiation of the agreement?

24 MR. DAVIS: Objection. You can respond.

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1 A. Okay. Just to be clear, you said two things
2 in there. You said Abbott would have renegotiated
3 and Hancock would have renegotiated. So I'm not
4 sure it was two questions or if you really meant
5 John Hancock in both instances.

6 Q. I meant John Hancock. I'm sorry if I
7 misspoke. I'm asking, assume -- And again, you just
8 have to bear with me here. This is a little
9 confusing because it's a hypothetical.

10 In this hypothetical your knowledge of
11 594 is exactly the same at the time of the contract
12 and throughout any subsequent period. The only
13 thing that's different is you know what you believe
14 is the true development status of 518.

15 And is it your testimony in that
16 scenario that Hancock would have pursued
17 renegotiation of the terms of the agreement?

18 MR. DAVIS: Objection. You can respond.

19 A. My belief is that -- So in the scenario
20 where Abbott comes and says, Geez, we didn't realize
21 we started, we stopped and we're going to -- 518 is
22 off the board, that we would have -- I believe would
23 have been willing to consider further discussions.

24 I would tell you that we've been working

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1 on this a long time. So I -- And I know that Abbott
2 was eager to get the transaction closed. So I don't
3 know if Abbott would have been willing to enter into
4 discussions. I generally believe that we would have
5 been willing to have further thoughts about the
6 structure.

7 And what I was -- I'm not sure you can
8 imply that the same -- It would have taken time.
9 They would have had to have presented us with
10 another -- at least another -- another compound that
11 we would have had to look at other financial
12 considerations.

13 And in the amount of time that it takes
14 to do those evaluations, that I don't know how you
15 hypothetical away other facts that become aware.

16 And that's where I'm trying to say that
17 I believe once that plays out, that you don't end up
18 doing the transaction.

19 But if I try to answer your question
20 somewhere in the middle there, which is I think we
21 would have been willing to have conversations.

22 Q. And let me just clarify something. You said
23 that if Abbott had come to you and said, We're sorry
24 we didn't tell you we stopped, but we did stop and

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1 we're restarting but we still plan to terminate
2 anyway, I want to ask you to assume that Abbott
3 provided you with information regarding the status
4 of the compounds that you allege it should have
5 provided continually throughout this period. So
6 there's no coming to Hancock after the fact and
7 saying, I'm sorry we didn't tell you this. Just
8 assume that everything that you allege should have
9 been disclosed by Abbott regarding 518 was disclosed
10 contemporaneously with Abbott's knowledge of that
11 fact. Okay?

12 A. Okay.

13 Q. As of March 13th, 2001, in that scenario,
14 would Hancock have demanded different terms for the
15 transaction?

16 MR. DAVIS: Objection. You can respond.

17 A. Okay. So if I understand you correctly, for
18 518, at some point in time we believe that Abbott
19 planned to terminate that compound and that they had
20 started it -- they actually started it and stopped
21 it and that it was expected to not be restarted.

22 And so is your question that if I found
23 that out -- And I don't know when that -- I can't
24 remember when that happened. If that happened in

1 February and I was told in February that that -- So
2 that's what you're saying, contemporaneously, that
3 we would then at that point in time would we start
4 talking about restructuring the transaction?

5 Q. Correct.

6 A. I think it's the same answer only just a
7 different time frame, I think.

8 Q. And in the scenario I just described where
9 Abbott is contemporaneously disclosing to you all of
10 the facts that you allege should have been disclosed
11 by Abbott, would you have backed out of the
12 transaction?

13 MR. DAVIS: Objection. You can respond.
14 Would he have not done the transaction?

15 MR. LORENZINI: Correct.

16 A. So this is not in the scenario where we
17 believe that there's misrepresentation. It's Abbott
18 is fully disclosing everything that's going on.

19 I believe that it's possible that we
20 would have had discussions about restructuring the
21 transaction. And then I put the caution on it,
22 which is this is a transaction that involves nine
23 compounds. So it all becomes interrelated over time
24 if not at any one point in time.

1 So it would basically be the same answer
2 that I gave you before, that yes, we would -- I
3 believe we would have been willing to have some
4 discussions regarding a restructuring of the
5 transaction, but I believe in time we would have
6 found out about the 594 and 773 and the transaction
7 wouldn't have been done.

8 Q. Again, let's just stick with 518 for now.
9 Let's just take this one step at a time. So in that
10 scenario we were just discussing, contemporaneous
11 disclosure by Abbott of everything you allege should
12 have been disclosed, you would not have decided not
13 to enter into the transaction based solely on what
14 you believed to be full disclosure by Abbott?

15 MR. DAVIS: Objection.

16 Q. -- regarding 518?

17 MR. DAVIS: When you say "the
18 transaction," do you mean a transaction or the
19 specific transaction that's contained in the
20 research funding agreement?

21 MR. LORENZINI: Well, I'm referring to
22 the allegation by Hancock that Hancock may not have
23 entered the agreement at all.

24 Q. If John Hancock had known contemporaneously

1 everything that it alleges it should have known
2 regarding the ABT-518, am I correct in understanding
3 that Hancock would have discussed renegotiation of
4 the contract rather than deciding not to enter into
5 the agreement at all?

6 MR. DAVIS: Objection. You can respond.
7 I think that's been asked and answered several times
8 now, but you can try one more time.

9 A. Yeah, I think that we would have been
10 willing to -- potentially willing -- Again, I caveat
11 it by saying that at that point in time -- Let's say
12 we're using March 12th. At that point in time we
13 had been working on this collectively for 15 months.
14 And I believe that there was -- that -- I believe
15 that Abbott was trying to get the transaction closed
16 in a certain period of time.

17 So leaving aside whether Abbott would be
18 willing to have discussions, we potentially could
19 have said, Yes. Okay. We understand 518 was not
20 successful. Thank you for telling us. And let us
21 talk about either substituting another compound or
22 doing something else in terms of the structure of
23 the transaction.

24 Q. And in that scenario what different terms,

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1 if any, would John Hancock have requested?

2 A. So in that scenario, if we had all decided
3 to come back to the table and give consideration to
4 the transaction, we -- I believe we would have
5 looked at substitution, you know, basically what we
6 say here. Substitution or you could look at
7 changing milestone payments, you could look at
8 changing royalty rates, you could extend the term of
9 the contract, we could pay less money, less than the
10 214. We can get -- I guess you can -- There are
11 numerous financial factors in the agreement that we
12 signed. You can look at changing all of those.

13 Q. You could have just used the -- included
14 less compounds in the agreement?

15 MR. DAVIS: Objection.

16 A. I don't believe so because we were looking
17 at -- Well, if you had less compounds, your -- So
18 everything else being the same -- And let's say you
19 adjusted the financials, the royalties, up but you
20 have less compounds, your probability of default
21 would have gone up. Yeah. Not probability of
22 default. Probability of loss, because you would
23 have had less compounds in there.

24 And then you would have also had less

1 diversification in terms of the number of compounds.
2 So at that point in time it's hard for me to say
3 that we would have just said, Oh, man, it's too bad
4 that 518 is gone. We'll just change the milestone
5 payments and be happy.

6 Q. Would your goal in this hypothetical
7 renegotiation have been to come up with a
8 combination of changes in terms that would result in
9 the same expected rate of -- same or similar
10 expected rate of return or same or similar risk of
11 loss?

12 MR. DAVIS: Objection. You can respond.

13 A. Those would be two important factors. And
14 again, you know, I know diversification of the
15 portfolio was important to us as well, so that would
16 be a consideration.

17 Q. Would there have been any other
18 consideration?

19 MR. DAVIS: Objection. You can respond.

20 A. None that I can think of right now.

21 Q. And you could have adjusted a large --
22 Strike that.

23 You could have adjusted a number of
24 different terms of the agreement, the ones that you

1 mentioned, to arrive at a set of terms that would
2 give you the same expected rate of return, the same
3 credit rating and the same diversification?

4 MR. DAVIS: Objection.

5 A. Is your question including substitution or
6 excluding substitution?

7 Q. Including.

8 A. Okay.

9 MR. DAVIS: Same objection. You can
10 respond.

11 A. You could with substitution of a compound
12 and modifying financial terms get to a similar
13 expected rate of return, expected probability of
14 loss and expected -- well, not expected, but
15 diversification.

16 Q. Now I want to get a little bit more
17 specific. You mentioned that Hancock could have
18 requested changes to various terms in the contract
19 in this hypothetical scenario where it has what it
20 believes to be full information regarding ABT-518.
21 Now I want to ask you specifically what terms would
22 you have requested be changed in that scenario?

23 MR. DAVIS: Objection. Beyond what he's
24 already testified to?

1 MR. LORENZINI: Well, he gave a list of
2 types of changes that could be made to the
3 agreement.

4 Q. I want to ask specifically in this scenario
5 where you believe to have full disclosure regarding
6 518, what terms would you have requested be changed?

7 MR. DAVIS: Objection. You can respond.

8 A. At this point, over six years later, I can't
9 go back and recreate what specific terms one would
10 have -- what we would have asked for and/or what
11 Abbott would have been willing to give.

12 Q. And --

13 A. I know that the factors that one could
14 potentially -- there may be others, but the ones
15 that we've discussed are factors that one could
16 change. To say instead of \$20 million royalty -- I
17 mean milestone payment, we want a \$22 million,
18 sitting here today I can't go back and recreate
19 that.

20 Q. What about a slightly higher level of
21 generality. Can you say sitting here today whether
22 in that scenario you would have requested changes
23 to -- Can you say which of the terms you would have
24 requested changing? In other words, I understand

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1 you're saying that you can't say -- you can't
2 quantify what changes you would have requested, but
3 can you specify whether you would have requested
4 substitution of compounds or change in the royalty
5 rates or change in the milestone or management fee,
6 change in the term? Can you specify which category
7 of contract terms you would have requested be
8 changed?

9 MR. DAVIS: Objection. You can respond.

10 A. I'm not sure that I can. I believe that the
11 only way to get the probability of loss back to what
12 was initially expected was to add a compound. I
13 think that's a true statement.

14 Because I don't know if you've got more
15 money on one of the other compounds, I don't think
16 that affects the probability of loss.

17 And then as it relates to the other
18 terms, I don't -- sitting here today, I don't think
19 I could say we would focus on changing the royalty
20 as opposed to any other factor to change.

21 Q. So you can't say what compounds you would
22 have requested be substituted for ABT-518 in this
23 scenario?

24 A. No, I wouldn't have knowledge of Abbott's

1 full portfolio of compounds.

2 Q. If you were in that scenario to have
3 requested a substitute compound, would you have
4 looked to substitute a compound in a similar phase
5 with similar probabilities of success?

6 MR. DAVIS: Objection.

7 A. Well --

8 MR. DAVIS: I caution you not to
9 speculate. If you know.

10 A. I don't know. If you got a -- If you
11 received a compound in a similar phase -- If you
12 received a compound in a similar phase, you would --
13 I think that would make the probability of loss
14 equivalent.

15 Now, if the compound was in a similar
16 phase but had a different market potential, then
17 your return could be higher or lower based on the
18 relative market potential, and so your -- our return
19 would be potentially higher or lower.

20 If you got a compound at a lower phase,
21 again, you don't get back to the probability of loss
22 being equivalent.

23 If you got a compound of higher -- in a
24 higher phase, more advanced, you would -- you'd

1 potentially have a lower probability of loss, and
2 then you'd have to factor in what the market
3 potential -- I think you have to -- I don't think
4 it's just the phase.

5 I think you have to look at the phase
6 and the market potential both with the substitute
7 compound if you go down that path.

8 Q. With the ultimate goal being to reach a
9 combination of terms and compounds that will give
10 you the same or similar rate of return, risk level,
11 diversification?

12 MR. DAVIS: Objection.

13 A. If you were going down that path, those
14 would be, I believe, the three key factors that you
15 would be looking at.

16 Q. That path being the path of renegotiation?

17 A. Yes.

18 Q. And in that path, in this hypothetical
19 scenario where you would go back to the negotiating
20 table, those would be the three factors that you
21 would have looked at?

22 MR. DAVIS: Objection. Asked and
23 answered. You may respond again.

24 A. I'm trying to sit here and think is there

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1 anything else. And there may be things, but those
2 are the three certainly that come to my mind.

3 Q. Right. And your goal -- I just want to be
4 clear -- would be to achieve a same or similar set
5 of credit rating, rate of return and
6 diversification?

7 MR. DAVIS: Objection. You can respond.

8 A. And I guess all I would say is, you say
9 credit rating, I say probability of loss.

10 Q. With that clarification, my statement was
11 correct?

12 MR. DAVIS: Objection.

13 A. Yes.

14 Q. If Abbott had disclosed to you that it had
15 temporarily halted the phase I trial of 518 but had
16 restarted the trial a few days thereafter and
17 planned to continue the trial and reassess the
18 program based on information regarding competitor
19 compounds that was to be released in the future,
20 would John Hancock have requested dropping 518 from
21 the agreement?

22 MR. DAVIS: Objection.

23 A. So just -- Let me just repeat it to make
24 sure I understand. You're saying that Abbott came

1 to us, so we're not finding out independently, that
2 518 was started and it was stopped and we're going
3 to restart it and evaluate it, which is different
4 than what we believe happened, which is that they
5 weren't going to restart it. So that's what you're
6 asking. Okay.

7 Yeah, my belief is, A, we may not have
8 done it, so go back to our long discussion. We
9 would not have -- potentially not done the
10 transaction at all, or in that case we would have
11 certainly wanted to know a lot more.

12 So your question is, would you say kick
13 518 out and put something else in or do some other
14 renegotiation.

15 We'd certainly want to know a lot more
16 as to why 518 was started and then stopped.

17 Q. Let me expand on the hypothetical a little
18 bit. Assume as you did before that Abbott fully
19 disclosed to John Hancock everything that you allege
20 should have been disclosed contemporaneously with
21 its own knowledge of that information. And as part
22 of that disclosure it told Hancock that there had
23 been a temporary hold on the clinical trial but that
24 the trial was restarted and that they were going to

1 continue with the trial and they were going to
2 evaluate the program in light of new data that would
3 be released regarding competitor compounds in the
4 future. What would John Hancock have done
5 differently in that scenario?

6 MR. DAVIS: Objection.

7 Q. Assuming all other facts are the same.

8 MR. DAVIS: Objection. Let me just
9 state, Eric, there is an inherent contradiction in
10 your question because what you're saying is to
11 assume that Hancock got all the information -- full
12 disclosure of all the information that it has
13 alleged that Abbott did not provide.

14 MR. LORENZINI: Correct.

15 MR. DAVIS: That information includes
16 the fact that Abbott decided to restart the trial of
17 ABT-518 solely as a pretext in order to get Hancock
18 to enter into the deal.

19 So if that had been known, that's a
20 different hypothetical than the one that you're
21 posing, which is no, that they would then inform
22 Hancock, I think untruthfully, that they intended to
23 reevaluate after they got additional information.

24 So that's not full disclosure.

1 MR. LORENZINI: Well, you're correct
2 that it's a different hypothetical. I think
3 Mr. Blewitt has already testified to the other
4 hypothetical, which assumes that Abbott was planning
5 to or had already terminated 518.

6 Q. So this is a new hypothetical where Abbott
7 provides full disclosure, says, We're restarting the
8 trial and we're going to look at competitor data
9 that's going to be released in May. Would John
10 Hancock have done anything differently in that
11 situation?

12 MR. DAVIS: Objection. The same
13 objection because that's not full disclosure. So
14 that's partial disclosure. My objection stands.

15 A. All right. So if I understand it, Abbott is
16 restarting the trial, but regardless of them
17 restarting the trial, reading what competitors are
18 doing will determine whether it will continue.

19 Do I understand that to be the
20 hypothetical?

21 Q. Well, it's a little different than what I
22 said. I'm just saying that if they had told you
23 that they were going to look to information
24 regarding competitor compounds in the future to help

1 make a decision about whether to continue the
2 program.

3 MR. DAVIS: In May?

4 MR. LORENZINI: Correct.

5 MR. DAVIS: Objection.

6 THE WITNESS: I'm sorry. You said in
7 May?

8 MR. DAVIS: Yes.

9 A. I don't think we would have done the
10 transaction because the way I'm -- Certainly the way
11 I heard it the first time, and you may have
12 rephrased it a little bit differently this time, but
13 the way I'm hearing it is, we're starting it but
14 we're really looking at what the competitors are
15 saying about their compounds to determine whether or
16 not we're going to go forward with our compound.

17 I'd have to go back and reread the
18 descriptive memos and all, but I think that's very
19 different than what they were telling us, which is,
20 I think -- I don't have the descriptive memos in
21 front of me or descriptive memorandum, but we were
22 aware that other compounds were being developed in
23 that class.

24 It was our understanding that Abbott at

1 least believed that their compound was better than
2 other compounds or had different characteristics
3 than other compounds.

4 So if what you're describing is, well,
5 we're going to start our trial, but if Pfizer has
6 got some compound in the same class and it doesn't
7 look good, we're going to stop ours, I don't think
8 we would take 518.

9 Q. So when you said before in your previous
10 part of your answer there that you wouldn't have
11 done the transaction, you mean you wouldn't have
12 wanted to include 518 in the transaction with that
13 information?

14 MR. DAVIS: Objection. You can respond.

15 A. So I don't know which hypothetical we're on
16 or which derivative.

17 Q. The one you just answered.

18 A. I understand --

19 MR. DAVIS: Same objection. You can
20 respond.

21 A. My point was that you had to go back to what
22 I said about the initial question and the one or two
23 other hypotheticals, which is assuming we got to
24 that point where we're willing to renegotiate the

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1 transaction. So Abbott is coming in full
2 disclosure, telling us everything that's going on,
3 and we're willing to renegotiate it, but there's
4 this thing that, hey, we may, based on what Pfizer
5 says about its compound, that we may stop. I think
6 in that particular instance we would say, Well,
7 yeah, we can talk about the contract, but we're not
8 talking about 518.

9 Q. Okay. I just wanted to clarify. So when
10 you said we wouldn't do the transaction, you
11 wouldn't have included 518 in the transaction?

12 A. Right. With all of the other prior -- I
13 don't know if it's stipulations or not that I
14 mentioned.

15 Q. I want to turn to ABT-594. And why don't
16 you take a look at paragraph 28 of the first amended
17 complaint. In that paragraph Hancock alleges that,
18 "Had John Hancock known the true development status
19 of ABT-594 before the agreement was executed, John
20 Hancock would have demanded different terms, such as
21 the substitution of another compound with a
22 comparable projected value or more favorable
23 financial terms with respect to the remaining
24 Program Compounds, or may not have entered the

1 agreement at all."

2 I want to set up a hypothetical here
3 where Hancock's information regarding 518 and 773
4 and all the other compounds is exactly the same as
5 what it actually had as of the time of the
6 agreement. The only thing that's changed in this
7 hypothetical is that John Hancock knows based on
8 Abbott's disclosure the -- what you believe to be
9 the true development status of ABT-594. And Abbott
10 in this scenario has disclosed this information to
11 John Hancock contemporaneously with the information
12 being known to Abbott itself. Would John Hancock
13 have entered into the research funding agreement?

14 Let me clarify. Would it have entered
15 into the agreement with Abbott generally?

16 A. So with all of that hypothetical --

17 MR. DAVIS: Objection. You can respond.

18 A. With all of that hypothetical, so this would
19 be -- So we're going back to probably October, I
20 guess, of 2000 when Abbott -- at least October when
21 Abbott is aware of all the adverse events related to
22 594, maybe even before October.

23 And it was at that point in time that
24 980 was dropping out, I think. Well, part of the

1 thing is, I don't know when Abbott knew --
2 specifically knew -- I mean, I know going back to
3 October of 2000 they knew that the nausea was
4 problematic.

5 So in your hypothetical you're saying
6 contemporaneously. You have to tell me, well,
7 what's that time frame, right, because certainly in
8 January they stopped enrolling patients in the
9 trial. So that's -- You can answer the question
10 based on that date.

11 But if they knew back in October they
12 were having significant issues, that's another
13 thing. If they knew prior to October, that would
14 give you a different answer.

15 So I'm not sure that in your
16 hypothetical you have to say, Look, these are the
17 facts as of this specific date.

18 Q. All I'm trying to do in that -- in the use
19 of the word "contemporaneous" is to distinguish it
20 from the scenario you started to describe with
21 respect to 518 where Abbott comes to you at a -- at
22 some later point prior to execution of the agreement
23 and says, here is some additional information
24 regarding 594. What I'm suggesting in this scenario

1 is that Abbott has disclosed to Hancock throughout
2 the negotiations on a regular basis, periodic basis,
3 all of the information that you believe Abbott
4 should have disclosed regarding ABT-594.

5 In that scenario would John Hancock
6 still have entered into a transaction with Abbott?

7 MR. DAVIS: Objection.

8 A. I do understand what you're saying. And I
9 guess the reason why I gave you a different answer
10 for 594 relative to 518 is that I believe that as it
11 relates to 518, the starting and the stopping --
12 yeah, the starting and the stopping was happening
13 very near the time in which we entered into
14 agreement.

15 In your hypothetical, as it relates to
16 594, the time period becomes very long. If there
17 was not this knowledge of issues regarding adverse
18 events, and I think it was nausea but I can't
19 remember now, in October, but somehow they woke up
20 in January and said -- January '01 and said, Look,
21 we're not enrolling any more, you might get a
22 different answer hypothetically than if we knew in
23 October or if we knew prior to October because prior
24 to -- maybe even prior to January the whole contract

1 was sort of up in flux.

2 If you remember, 980 was dropping out at
3 one point and there was -- all discussions regarding
4 the agreement had stopped at Abbott's request, I
5 believe, in the December 2000 time frame, and then
6 it got restarted. And I'm not sure when it -- It
7 got restarted I think in January.

8 I think I understand the question. My
9 answer is, I think it's very dependent upon when
10 this information is coming out.

11 Q. Okay.

12 MR. DAVIS: Can we take a time out?

13 MR. LORENZINI: Yeah.

14 (Recess taken)

15 Q. Mr. Blewitt, when we left off I was asking
16 you in a hypothetical scenario where John Hancock
17 knows -- John Hancock's information regarding all of
18 the other program compounds is exactly as it
19 actually was at the time of the agreement. The only
20 thing that's changed in the scenario is that John
21 Hancock knows what it believes to be the "true
22 development status" of ABT-594 and it knows this
23 information because Abbott has disclosed the
24 information to Hancock on a periodic basis

1 throughout the negotiations. What would John
2 Hancock have done differently, if anything?

3 MR. DAVIS: Objection. Beyond what he's
4 already testified to?

5 A. So if -- March 13th -- on March 13th Abbott
6 told us that they had stopped the clinical trial,
7 stopped enrolling patients in the clinical trial
8 back in January, they had reduced the funding for
9 the compound by 70 or 75 percent for 2001 and that
10 they were experiencing significant adverse events on
11 594, I think in that -- I know in that situation we
12 would not have done the transaction.

13 Q. And when you say "the transaction," do you
14 mean the transaction as a whole, or you wouldn't
15 have included ABT-594 in the transaction?

16 A. No. The transaction as a whole.

17 Q. And is that because if Abbott had disclosed
18 that information to you on March 13th, 2001, on the
19 eve of signing the agreement, you would have had
20 concerns regarding whether Abbott had made full
21 disclosure with respect to other aspects of the
22 deal?

23 MR. DAVIS: Objection.

24 A. Well, I mean, we would have had concerns

1 that they didn't disclose the true facts about
2 ABT-594. And I think we would have concerns about
3 other aspects of the transaction as well.

4 Q. So the reason in that scenario you just
5 described, which is different than the one I
6 described -- the reason why you're testifying you
7 wouldn't have entered into the transaction is not
8 because of the concerns that you might have
9 regarding the prospects of ABT-594 specifically, it
10 would have been more because of concerns regarding
11 Abbott and its credibility?

12 MR. DAVIS: Objection. Asked and
13 answered. You can respond.

14 A. Well, that would certainly be -- That would
15 certainly be a reason not to do the transaction.

16 Q. What would be?

17 A. What you just said. Let me just summarize
18 what you just said, which is concerns about Abbott's
19 credibility or truthfulness. But at that point in
20 time you also would have had -- this would have been
21 the second time -- 594 was -- All compounds were
22 important for a variety of reasons. 594 obviously
23 was a compound that had moved. It was further in
24 clinical trials. We expected and we had been told

1 that there was significant market potential for 594
2 and that Abbott was going to spend a lot of money on
3 the compound.

4 So if on the heels of restructuring the
5 transaction back in the -- well, starting to
6 restructure the transaction back in the fall/winter
7 of 2000 and then getting the transaction resurrected
8 and then going through all of these restructurings
9 again, to then have another compound where we have
10 to go through all of this again, it's possible that,
11 A, after 15 months we may not have decided to pursue
12 it, but it's also possible -- I mentioned before
13 that I believed that Abbott was under pressure to
14 get the transaction closed at that point in time.

15 So I think it's -- At that point in time
16 certainly because of the concerns about the
17 credibility of Abbott but also regarding just going
18 in and renegotiating the whole transaction, that a
19 transaction would not have been done.

20 Q. You just testified a few moments ago that
21 it's possible that Abbott or Hancock wouldn't have
22 wanted to do the transaction in that situation. Is
23 it also possible that Hancock and Abbott would have
24 wanted to complete the transaction in that scenario?

1 MR. DAVIS: Objection.

2 A. Well, not in that scenario because, again,
3 we would have serious concerns about our proposed
4 partner in terms of the truthfulness in disclosing.

5 Q. Okay. We're going to have to go back to my
6 earlier hypothetical because I'm trying to isolate
7 one variable in this hypothetical; and that is,
8 everything else is the same. The only thing that's
9 changed in this scenario is John Hancock has
10 received from Abbott on a regular basis all of the
11 information that you believe Abbott should have
12 disclosed regarding ABT-594. What would John
13 Hancock have done differently, if anything, in that
14 situation?

15 MR. DAVIS: Objection.

16 A. And I tried to answer that question by
17 saying I don't believe that -- You're not giving me
18 a specific date in your hypothetical. And I can't
19 answer the question without a specific date.

20 Q. Let me put it this way: You received a
21 descriptive memorandum from Abbott in May 2000,
22 November 2000 and February 2000 on ABT-594, correct?

23 A. I think that's correct. The May one I may
24 have received in June.

1 Q. The summer of 2000 anyway?

2 A. Actually, it's probably still the spring.

3 Q. June?

4 A. June 21st.

5 Q. If in those drafts of the descriptive

6 memorandum that you received from Abbott in May or

7 June 2000, November 2000 and February 2001 and in

8 the final descriptive memorandum attached to the

9 agreement on March 13th, 2001, if Abbott had

10 disclosed in those descriptive memorandum all of the

11 information regarding ABT-594 that you believe

12 should have been disclosed that was available to

13 Abbott as of the time of that draft of the

14 descriptive memorandum, what, if anything, would

15 John Hancock have done differently?

16 MR. DAVIS: Objection. I think that

17 varies from the allegations in the complained, but

18 you can try to respond. I'd caution you not to

19 speculate.

20 A. So you gave me different dates. So in March

21 when we signed the agreement if they disclosed -- if

22 they disclosed that or even if they disclosed it in

23 February or in November, as I think through all of

24 those three scenarios, basically what you're

1 describing is Abbott trying to sell us a compound.
2 And I don't remember how the descriptive memorandum
3 reads, but that it was a highly promising compound
4 or whatever the words were in the descriptive
5 memorandum, but yet in the document they say, Well,
6 we've stopped the clinical trials certainly by
7 February, March or that we're going to terminate or
8 probable terminate certainly in the February or
9 March time frame.

10 We're saying up here that it's a great
11 compound, but we're showing you data that says that
12 there's all these adverse events. I don't think you
13 do the deal because you'd still question the
14 credibility of Abbott.

15 Q. Okay. Let me clarify. When I say in my
16 hypothetical that Abbott has disclosed to John
17 Hancock in each draft of the descriptive memoranda
18 what you believed to be the true development status
19 of ABT-594, I mean completely. They've put in that
20 descriptive memorandum everything that you believe
21 should have been in there.

22 So if you believe that they should have
23 not used the word -- the description that it was a
24 promising candidate, then that wording is not there

1 in this hypothetical. Whatever you believe the
2 appropriate wording would have been in those
3 descriptive memoranda, that's what's there in this
4 hypothetical.

5 A. So just for example, in March --

6 MR. DAVIS: Objection. You can respond.

7 A. In March of 2001 the descriptive memorandum
8 says this -- we've stopped this trial. I guess the
9 compound exists, but it's never going to be
10 approved. And we want you to give us \$214 million
11 to support this contract -- I mean this compound
12 among the others, no, we wouldn't have. It's
13 totally illogical. I don't know who would do that
14 transaction.

15 So that's what your hypothetical is
16 saying is that this compound will never get
17 approved, but we want you to support it. I don't
18 know how we would do business with someone who even
19 thinks that we would do a transaction like that.

20 It's like buying a bond and you're going
21 to buy a bond and the guy is telling you we're not
22 going to pay you.

23 Q. Are you aware that Abbott was projecting a
24 32 percent probability of success for ABT-594 as

1 late as April of 2001?

2 MR. DAVIS: Objection.

3 A. April of 2001?

4 Q. Correct.

5 A. So after the agreement was signed?

6 Q. Correct.

7 MR. DAVIS: Objection.

8 Q. Are you aware of that fact?

9 MR. DAVIS: Objection.

10 A. I don't know what the probability was.

11 Q. If that's correct, would you still contend

12 that Abbott believed that ABT-594 was not going to

13 be approved as of March 13th, 2001?

14 MR. DAVIS: Objection. You can respond.

15 A. Yes, that's -- That's been my testimony,

16 that they had stopped the clinical trial, they had

17 stopped enrolling patients. I've subsequently

18 learned that they've cut -- that the spending plan

19 that they had for that compound was 70 percent below

20 what they represented to me.

21 Q. And why would they still be projecting a 32

22 percent probability of success if they didn't

23 believe the compound was going to be approved?

24 A. You're deposing the wrong person for the

1 answer to that question.

2 Q. You don't know the answer, right?

3 MR. DAVIS: Objection. You may respond.

4 A. I'm not Abbott.

5 Q. I want to be clear in this hypothetical. I

6 know it's a little hard to get into the hypothetical

7 world. I'm trying to get away from any -- separate

8 out the credibility issues that you've mentioned.

9 So I'll try this again.

10 In the hypothetical that I'm posing to

11 you Abbott has fully disclosed all the information

12 regarding ABT-594 and it's saying to Hancock all the

13 information you allege should have been disclosed.

14 I understand you allege that Abbott was over-selling

15 ABT-594, but in this hypothetical scenario Abbott is

16 not doing what you allege. It's just saying this is

17 all the information we have regarding ABT-594, do

18 you want to include it as a program compound in the

19 research funding agreement. Do you understand that

20 hypothetical?

21 MR. DAVIS: Objection. I understand the

22 hypothetical, Eric. What you're asking him to do is

23 hypothesize away all of Abbott's misconduct.

24 MR. LORENZINI: No.

1 MR. DAVIS: Again, that's not what the
2 complaint is alleging here. If Hancock had known
3 what actually was happening, that Hancock either
4 would have demanded different terms or would have
5 not done the agreement. I think what Mr. Blewitt
6 has testified to is, based on everything we know
7 now, they wouldn't have done the deal or a deal.

8 MR. LORENZINI: No. I'm asking him
9 to -- I'm setting up a hypothetical that is intended
10 to parallel what's in the complaint, which is that
11 Hancock knows because Abbott has disclosed all of
12 the information regarding ABT-594 that Hancock
13 believes it should have had. It's not making any
14 representations or any -- providing any information
15 to Hancock that you believe is inaccurate or
16 misleading in any way. Okay? Full disclosure.
17 Would John Hancock have done anything different?

18 MR. DAVIS: Objection. Asked and
19 answered.

20 A. Well, we wouldn't have entered the
21 agreement. And I come back to in your hypothetical
22 what you're describing is basically based on our
23 allegations, that this compound was not going to get
24 developed and -- developed further, but Abbott was

1 still asking us to invest in the -- in the pool.

2 And by extension in the compound.

3 Q. Let me tweak the hypothetical a little. If

4 Abbott had not only told Hancock all the facts that

5 you believe it should have been told and Abbott said

6 let's not include ABT-594 in the deal, would John

7 Hancock have done anything differently?

8 MR. DAVIS: Objection.

9 A. So in March of 2001 they come and disclose

10 all of the facts that we allege --

11 Q. No. It's actually different.

12 A. You gave me different dates. You're piecing

13 together hypotheticals here. I'm trying to figure

14 out which hypothetical I'm on.

15 Q. My hypothetical did not include Abbott

16 coming to Hancock in March. It's Abbott is

17 providing Hancock throughout the negotiations with

18 information regarding ABT-594. And at some point

19 the parties mutually agree not to include ABT-594 in

20 the agreement.

21 In that scenario what, if anything,

22 would John Hancock have done differently? Would it

23 have demanded any different terms in the contract?

24 MR. DAVIS: Objection. You can respond.

1 A. And so what date is that?

2 Q. If it varies by date, tell me. I'm just

3 asking --

4 A. They gave me a portfolio of compounds --

5 Well, let's say May or June in the first descriptive

6 memorandums. So if the day after they sent me -- If

7 it was never in the -- in there or if the day after

8 they sent me the descriptive memorandum say, Oops,

9 we learned something, let's pull that out for 594,

10 then it's possible that we would have come to some

11 agreement on a portfolio of compounds.

12 If it came out in March, I testified

13 that we wouldn't. It's highly dependent upon what

14 the date is and where we are in the whole process of

15 everything else that's going on.

16 Q. So in other words, if Abbott had provided to

17 John Hancock all of the information that you believe

18 wasn't provided and should have been provided, if it

19 had done that contemporaneously with Abbott's own

20 knowledge throughout the negotiations, you would

21 have still entered into a transaction with Abbott,

22 but you wouldn't have included ABT-594 as a

23 program compound?

24 MR. DAVIS: Objection.

1 A. No, I didn't say that. Tell me the date
2 that Abbott started misrepresenting things and I can
3 answer the question.

4 Q. Well, I don't believe Abbott did
5 misrepresent anything.

6 A. That's the answer -- I mean, you can ask it
7 a hundred different ways. At some point in time
8 this has got to end, the question's got to end.

9 You can't tell me the day. And I've
10 told you my answer depends on the day. Right?
11 Because if it was May 15th, the day after they sent
12 me it, then we're very early on in the process. We
13 haven't even gotten into the contract, we haven't
14 gotten into Dr. Klotz evaluating things, so he
15 hasn't spent the time.

16 If you're telling me it's in March, then
17 they've misrepresented everything, we're not doing
18 the transaction. I don't know how else I can answer
19 the question.

20 Q. Are you saying that it's impossible to know
21 at this point what you would have done differently
22 if you had known the true development status of
23 ABT-594?

24 MR. DAVIS: Objection. I don't think

1 that's what he's testified to. You can respond.

2 A. Well, I guess what I'm telling you is that,
3 based on our complaint, that if we knew the true
4 status at the time that we were entering into the
5 agreement, we would not have entered the
6 transaction.

7 So I've chosen a date. And that's my
8 answer.

9 Q. Of March 13th. But if Abbott had provided
10 to you the information that you believe it should
11 have provided earlier in the negotiation period,
12 it's possible that Hancock would have still entered
13 into a transaction with Abbott?

14 MR. DAVIS: Objection.

15 A. Well, you're not giving me a date, so I've
16 interpreted your question by choosing a date. And
17 my date is March 13th or March 12th. On that basis,
18 I would not enter into the agreement.

19 Q. Okay. So I'll give you a date. If in
20 August 2000 Hancock knew that there was certain
21 level of dropouts of patients in the blinded phase
22 II clinical trial of the 594 due to adverse events,
23 would -- and it knew that because Abbott had
24 provided that information, what, if anything, would

1 Hancock have done differently?

2 MR. DAVIS: Objection.

3 A. I would say that at that point in time -- I
4 can't remember where we are. At that point in time,
5 so Dr. Klotz had done his diligence on the
6 compounds. And so -- And I'm trying to think where
7 we were from a negotiating a document standpoint.

8 We would certainly entertain a
9 substitute compound at that point in time. Well, I
10 shouldn't say certainly, but I believe we would
11 entertain a substitute compound at that point in
12 time.

13 Q. Would you also have considered changing
14 other terms to the contract instead of adding a
15 substitute compound?

16 MR. DAVIS: Objection.

17 A. Potentially, yes.

18 Q. And do you know -- Can you say at this time
19 what compound you would have requested to be
20 substituted for ABT-594?

21 A. No.

22 Q. Can you say which terms would have been
23 changed or would you have requested changing in the
24 agreement in that scenario?

1 A. Well, we generally, in looking at the
2 transaction, financial terms that one could focus on
3 would be length of contract, how much John Hancock
4 would potentially invest and on what basis,
5 royalties, the tiering structure of the royalties.
6 I don't know if I said milestone payments already.

7 So there would be a number of different
8 things that one could look at.

9 Q. And of those number of different things, can
10 you say now which of those terms John Hancock
11 specifically would have requested changing?

12 A. No.

13 Q. Moving to ABT-773, in paragraph 30 of the
14 complaint -- I'm not going to read it this time, but
15 you'll see --

16 A. I need your page again.

17 Q. Sorry. You'll see that John Hancock alleges
18 that if it had known the true development status of
19 ABT-773, it would have demanded different terms or
20 may not have entered into the agreement at all.

21 If John Hancock had known the true
22 development -- what you believe to be the true
23 development status of ABT-773 before the agreement
24 was executed, what different terms would John

1 Hancock have demanded?

2 A. Well, so --

3 MR. DAVIS: Objection. You can respond.

4 Can we incorporate by reference?

5 A. If we learned just before signing the
6 agreement that there was significant concerns about
7 safety, let's say, just generally, that the launch
8 date had been changed, had been delayed, that there
9 may be further delays in the launch date and all of
10 the different things that we allege and Abbott had
11 not informed us of that or informed us at the last
12 minute of those, then we would not have entered into
13 the agreement.

14 Q. Okay. And let's change the hypothetical a
15 little bit. You mentioned in your answer that --
16 You just gave an answer of what you'd do if Hancock
17 had been informed of that information at the last
18 minute. What if instead Abbott had disclosed to you
19 everything that you believe was not disclosed and
20 should have been disclosed regarding ABT-773
21 periodically throughout the negotiations. So the
22 May 2000 descriptive memoranda had all of the
23 information you believe should have been in there as
24 of that date, the November 2000 memorandum had all

1 the information that you believe should have been in
2 there as of that date, same with the February draft,
3 same with the final draft, what, if anything, would
4 John Hancock have done differently?

5 MR. DAVIS: Objection.

6 A. We would have had to have evaluated all of
7 the different information to determine what the true
8 probabilities of success and what the true potential
9 for the compound is. If this came on after having
10 spent 15 months or 14 months if you want to back
11 away from March, 14 months on the transaction and
12 had all this legal negotiation, et cetera, it's
13 possible that at that point in time that we don't do
14 the transaction because that would require a
15 considerable amount of analysis to figure out if
16 it's possible to restructure that transaction just
17 given I think at that point in time we believed it
18 to be the compound that was the closest to success
19 and maybe even believed it was the compound that had
20 the highest market potential.

21 So from a -- You look at the thing on a
22 portfolio basis, but on an individual basis that
23 compound had substantial -- I think the largest
24 value of all the compounds. So you would be looking

1 at a very significant restructuring that at 14
2 months, let's say, I'm not sure that Abbott or
3 Hancock would have had the stamina to continue to
4 negotiate the changes to the contract.

5 And that also was a big diversification
6 as well because there were a lot of cancer compounds
7 in there. And this was an anti-infective compound.
8 So it was material from that aspect as well.

9 Q. In this scenario that we're discussing,
10 would your preference have been to try to
11 renegotiate the terms of the contract if possible if
12 Abbott had the stamina to engage in that
13 negotiation, as you said?

14 MR. DAVIS: Objection.

15 A. I don't know what my preference would have
16 been at the time.

17 Q. You just can't say at this point in time
18 what you would have done back then?

19 A. That's correct.

20 MR. DAVIS: Objection. You may respond.

21 Q. Do you know what -- You mentioned that you
22 would have adjusted the probabilities of success if
23 you had the information you believe was not
24 disclosed and should have been disclosed?

1 A. I believe that we would have had to have
2 done a fair amount of more due diligence to
3 understand the probability -- and that's one of the
4 factors, but the probability of success, given
5 issues regarding resistance and issues regarding QT
6 and liver toxicity.

7 Q. Do you know what probability of success you
8 would have assigned to ABT-773 if you had known what
9 you believe to be the true development status?

10 A. No.

11 Q. Would your process to determine that
12 probability of success be the same process that you
13 used back at the time of negotiating the agreement?

14 MR. DAVIS: Objection. You can respond.

15 Q. The same process described in the yellow
16 report.

17 MR. DAVIS: Objection. You can respond.

18 A. It may have been, or there -- at that point
19 in time there were -- if we're looking at February,
20 let's say, that's five months later, so there may
21 have been other things that I would have looked at
22 at that point in time.

23 Q. You wouldn't have assigned a probability of
24 success of zero to the ABT-773 based on what you

1 believe to be the true development status of the
2 compound?

3 MR. DAVIS: Objection.

4 A. I don't know.

5 Q. You don't know what probability -- You can't
6 say with any certainty a range of probabilities that
7 you would have assigned?

8 A. No.

9 MR. DAVIS: Objection.

10 A. Not sitting here today.

11 Q. Can you say what adjustments, if any, you
12 would have made to the peak sales estimates or any
13 other assumptions regarding ABT-773 if you had all
14 the information that you believe was not disclosed
15 and should have been disclosed?

16 A. It would be my expectation -- and I think
17 this would go back to your prior question as well.
18 I'm speculating a bit six years later as to what I
19 would do.

20 MR. DAVIS: Don't speculate. If you
21 know. He's entitled to an answer if you know.
22 Please don't speculate.

23 Q. You can testify, as Mr. Davis said, if it's
24 not speculation.

1 A. Well, I guess my belief is that it would be
2 lower than -- I think we had a 70 percent
3 probability of success and maybe an 800 million of
4 expected sales. It would be my belief that it would
5 be lower than 70 percent and lower than 800 million.

6 Q. But you don't know how much lower?

7 A. I don't.

8 Q. You testified earlier today that Hancock in
9 its most recent projections for ABT-773, which is
10 now under development by Advanced Life Sciences,
11 projects a 40 percent probability of success. Is it
12 fair to say that if at the time of the research
13 funding agreement you had known what you believe to
14 be the true development status of ABT-773, that you
15 would have assigned a probability of success to that
16 compound somewhere between 40 percent and 70
17 percent?

18 MR. DAVIS: Objection.

19 A. I don't think that that's necessarily
20 correct.

21 Q. Are you aware of any facts that suggest to
22 you that the probability of success of the compound
23 in Advanced Life Sciences' hands as of the last time
24 you did your assessment of that compound is -- the

1 probability of success is greater than it would have
2 been in Hancock's -- I'm going to start this
3 question over.

4 Do you have any reason to believe that
5 you would have assigned a probability of success of
6 lower than 40 percent for ABT-773 back on March
7 13th, 2001 if you had known what you believe to be
8 the true development status?

9 A. We may have.

10 Q. What, if anything, makes you believe that
11 the probability of success has increased from March
12 13th, 2001 to the date of your last analysis of the
13 probability of success of that company?

14 A. I guess what I'm saying is, I don't know
15 what we would have assigned as a probability of
16 success. So I think in your question you're asking
17 me did it increase, which is implying that I would
18 have assigned something less than 40. I just don't
19 know what we would have assigned, so I can't answer
20 what would have made it increase.

21 Q. And you testified before that it was
22 possible that if you had learned additional
23 information regarding ABT-773 at the end of your
24 negotiations, that you might not have done the

1 transaction. If you had learned the information you
2 believe should have been available to you earlier in
3 the negotiation, can you say whether you would have
4 entered into the transaction?

5 MR. DAVIS: Objection. Asked and
6 answered. We're covering the same ground again here
7 over and over. We'll do it one more time and that's
8 it.

9 A. I'm sorry. Say the question one more time.

10 (Record read)

11 MR. DAVIS: Objection. He has answered
12 that. And I also object to the form of the
13 question. One more time and that's it.

14 A. Well, in terms of the first part of the
15 question, you're stating -- I think my testimony was
16 that if we had learned just before signing all of
17 what we believe to be the true facts, I think I said
18 we would not have entered into the transaction. And
19 I think when it was read back, I think you said may
20 not.

21 Sorry to do this again. Just read back,
22 please, the second half of the question so I can
23 understand what time frame you're trying to get to.

24 (Record read)

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1 A. And I think I answered that in terms of,
2 again, if we had learned it in February, which is
3 earlier, that it's possible that we would not have
4 done it because at that point in time it would have
5 been 14 months into this process, so it would have
6 required a significant restructuring. If we were
7 even going to go down that path, it would have
8 required a significant restructuring of the
9 agreement. And I'm not sure that Hancock would have
10 allocated the time or whether Abbott would have
11 wanted to have done the transaction at that point in
12 time.

13 Q. Although you had engaged in a significant
14 restructuring of the transaction earlier after
15 ABT-980 was dropped, correct?

16 A. Yes.

17 Q. And so it's possible that the parties would
18 have gone through that same process again of
19 restructuring the transaction based on -- if ABT-773
20 was to be removed?

21 MR. DAVIS: Objection. You can respond.

22 A. You know, another issue that would have
23 arisen in our mind is at that point in time, if
24 I'm -- so now we're past 980, but maybe not in

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1 February, is if 980 failed, which is a late stage
2 compound, and then 773 failed, or maybe not had
3 failed but there were serious concerns in my --
4 based on the facts that we believe in terms of
5 launch date and all of the things that we've recited
6 before, it's possible that I would not have
7 recommended the transaction because then it would
8 bring into question, well, these were two
9 significant compounds that supposedly had high
10 probability of success, and one and then the other,
11 it would question the probability of success for any
12 of the compounds in the portfolio.

13 Q. What if you had known what you believe to be
14 the true development status of ABT-773 prior to
15 ABT-980 being dropped from the set of program
16 compounds?

17 MR. DAVIS: Objection.

18 A. I think then you would have the same --
19 potentially have the same situation play out in that
20 now 980 is dropping out. Well, 773 dropped out, now
21 980 has dropped out. Maybe this is a transaction we
22 shouldn't do.

23 Q. But you can't say with certainty at this
24 point in time looking back?

1 MR. DAVIS: Objection.

2 Q. Six years earlier what you would have done
3 in that scenario?

4 MR. DAVIS: Objection.

5 A. In the scenario that 773 dropped out or had
6 less commercial viability and then 980 dropped out?
7 I'm sorry. Is that your question?

8 Q. Yes.

9 A. I can't say with certainty, but it would
10 create significant questions.

11 Q. If John Hancock, knowing what it believes it
12 should have known regarding ABT-773, decided to
13 restructure the transaction, what different terms
14 would it have demanded? And if your answer is the
15 same as it was for the other compounds, you can say
16 that to move things along.

17 MR. DAVIS: Objection. You can respond.

18 A. It would be the same. We would not do the
19 transaction if we found out just before closing.
20 And it depends on the timing. And we wouldn't
21 substitute and all the financial factors.

22 Q. And your ultimate goal if you were to
23 request changes in terms would be to reach a similar
24 set of probabilities of loss, expected rate of

1 return and diversification?

2 MR. DAVIS: Objection.

3 A. Well, to be clear, if we believed that there
4 was misrepresentation, it wouldn't matter what the
5 probabilities of success, et cetera, were.

6 Q. But setting that aside.

7 A. If there was no misrepresentations, then I
8 believe that we would have looked at the -- at least
9 the three factors, at least the three I can
10 remember, which is the expected rate of return, the
11 expected probability of loss -- the probability of
12 loss and the diversification.

13 Q. And just to kind of bring this all together,
14 if John Hancock had known the -- what it believes to
15 be the true development status of all three of the
16 compounds, 518, 594 and 773, as of the time of the
17 agreement, and in this scenario Abbott has disclosed
18 this information throughout the negotiations to John
19 Hancock, what would John Hancock have done
20 differently, if anything?

21 MR. DAVIS: Objection. You can respond.

22 A. I don't believe we would have done the
23 transaction.

24 Q. Why?

1 A. Well, that's three nights of a portfolio
2 that is not there, and I don't know how you even
3 begin to start restructuring -- It would call into
4 question all of the probabilities, et cetera.

5 Q. Now, when you say "not there," you testified
6 before that if you had known the true facts
7 regarding 773, you would have revisited your
8 assumptions regarding probabilities of success and
9 peak sales, et cetera. So you wouldn't have, based
10 on that reassessment, necessarily have dropped
11 ABT-773 from the set of program compounds, correct?

12 MR. DAVIS: Objection.

13 A. We might have.

14 Q. But you might not have?

15 MR. DAVIS: Objection.

16 A. Well, again, if we -- If it came to light
17 because of misrepresentations, we don't do the
18 transaction. If at some point in time we're
19 informed that it's got a different launch date and
20 there's a lot of issues -- Ketek was coming to
21 committee -- FDA advisory committee I think in March
22 or April, maybe April, of 2001. And I think
23 Abbott -- So the hypothetical is Abbott's disclosing
24 everything to us. I think in some of the documents

1 I've seen Abbott is focused on what do you learn
2 from Ketek.

3 So it's possible -- So that's fully
4 disclosed, then, in your hypothetical. And we say,
5 Let's wait until we hear about Ketek. So the
6 transaction doesn't get done in the time frame that
7 you're describing.

8 Q. But it might be done eventually with you
9 assigning a lower probability of success to ABT-773
10 after the Ketek advisory meeting?

11 MR. DAVIS: Objection. You're saying
12 again 518 and 594 are out of the mix, that they're
13 no longer part of the portfolio.

14 MR. LORENZINI: It's assuming all the
15 facts are known to Hancock that it believes should
16 have been known.

17 A. Well, but at that point in my mind -- and I
18 think I've said this before, if that's the case, 518
19 and 594 are not in.

20 So I go back to now you've got a
21 portfolio that you've lost two, maybe three, and if
22 not lose the third, you've got potentially a
23 diminished third --

24 Q. So can you say what you would have done in

1 that situation?

2 MR. DAVIS: Objection. Asked and

3 answered. You can respond again.

4 A. It's hard for me to say that we would have

5 entered -- It's hard for me to see us entering into

6 the agreement. I don't believe we would have.

7 Q. Even if -- What if Abbott offered more

8 favorable terms, more favorable royalty rates or

9 other terms?

10 MR. DAVIS: Objection.

11 A. Well, your probability of loss -- I can't do

12 the math, but your -- Well, to be clear, again, we

13 get lost in your hypotheticals, but you're saying

14 that those three are just gone and you're left with

15 the six remaining?

16 Q. No. I'm just saying that all the facts that

17 you believe should have been known to Hancock are

18 known to Hancock and Abbott was willing to offer

19 more favorable terms, whether it be royalty rates or

20 other terms, lower program payments, would John

21 Hancock have considered entering into the

22 transaction?

23 A. I don't think so.

24 Q. What if Abbott was offering terms that would

1 get you to the same expected rate of return and
2 probability of loss and diversification?

3 A. I don't know how they would have done that
4 without -- if you've taken out two and possibly a
5 third compound, I don't know how you could possibly
6 do that.

7 Q. But if Abbott could come up with a set of
8 terms that would get you to that place, then you
9 would have entertained that renegotiation?

10 MR. DAVIS: Objection. You can respond.

11 A. I don't think it's possible.

12 Q. But if it is possible --

13 A. I'm not going to answer it because I don't
14 think it's possible. It's like telling me,
15 whatever, that they're a unicorn. Well, I don't
16 believe that they're a unicorn, so I'm not going to
17 answer that question.

18 Q. And you don't know what compound, if any,
19 Hancock would have -- If Hancock decided in this
20 scenario to not include 773 in the agreement, you
21 don't know what compound or compounds it would have
22 requested replacing it with?

23 MR. DAVIS: Objection.

24 A. So which hypothetical are we on?

1 Q. Assuming that John Hancock decides to
2 proceed with the transaction but is not going to
3 include ABT-773. Do you know what compound it would
4 have requested as a replacement?

5 A. I think I answered that question before.

6 Q. It was that you don't know?

7 A. Right.

8 MR. DAVIS: Hold on. It's 6:30. I've
9 let you go an extra hour beyond the four.

10 MR. LORENZINI: All I'm going to do is
11 just ask if there's any combination of these that
12 would make any difference. He's testified now to
13 sort of individually and then all three. I'm just
14 going to ask him --

15 MR. DAVIS: Can you do that in five
16 minutes?

17 MR. LORENZINI: Yes.

18 Q. Mr. Blewitt, if John Hancock had known what
19 it believes to be the true development status of
20 ABT-518 and 594 but everything else is the same in
21 the scenario, would it have done anything
22 differently?

23 MR. DAVIS: Objection.

24 A. So it's 518 and 594. Well, I'm going to

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1 choose a date and I'm going to choose March 12th.

2 And I would tell you we're not going to do the

3 transaction.

4 Q. But if under the assumption we discussed

5 before where Abbott is disclosing to you throughout

6 the negotiations all of the information you believe

7 was not disclosed and should have been disclosed,

8 what, if anything, would Hancock do differently?

9 MR. DAVIS: Objection.

10 A. Again, I've got to make -- In your

11 hypothetical I've got to make a decision at a

12 particular point in time. The particular point in

13 time I've chosen is March 12th.

14 Q. In this hypothetical I just described the

15 information is known to Hancock contemporaneously

16 with it being known to Abbott. So if Abbott knows

17 something about a blinded trial of 594 in August,

18 Hancock knows it. Same with 518.

19 In that scenario would John Hancock have

20 done anything differently?

21 MR. DAVIS: Objection. Go ahead.

22 A. So in August the -- So in August Abbott

23 pulls 594 out because they've disclosed to us that

24 they don't believe that the -- that they're going to

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1 pursue the compound and 518 they're not going to
2 pursue either.

3 Q. I think you're setting up a different
4 hypothetical there. All I'm saying is that Abbott
5 has told you everything throughout the negotiations
6 you believe it should have been told. You're having
7 that information at the same time Abbott has it.
8 I'm not asking you to make any assumptions about
9 whether drugs -- whether Abbott would have pulled
10 drugs from the --

11 MR. DAVIS: If you don't have enough
12 information about the hypothetical, you can tell him
13 that and decline to answer on that basis. If you
14 don't have an answer based on the hypothetical
15 proposed, please tell him.

16 A. Well, I already answered the question about
17 both individually, but specifically 594 in August.
18 So if 594 got pulled out in August and the
19 contract -- and we somehow substituted a compound
20 and then 980 got pulled out because that's -- that
21 is what happened and then 518 got pulled out, I
22 think we don't do the transaction because at that
23 point in time you had three compounds drop out along
24 the way.

1 Q. Well, your testimony on that grounds earlier
2 was regarding ABT-773, which is a phase III
3 compound. As you recall, ABT-518 and 594 did not
4 have as much value.

5 A. My testimony was on the 594.

6 MR. DAVIS: Next question?

7 Q. I just want to be clear. So your testimony
8 regarding not doing the deal relates to 980 being
9 dropped out, it relates to the timing of that
10 compound being dropped from the agreement?

11 MR. DAVIS: Objection.

12 A. What I thought your earlier question was as
13 it related to a hypothetical in August when we
14 learned the facts about 594.

15 Now I guess what I'm saying is that if
16 in your hypothetical let's say we learn about 594 in
17 August and then we learn about 518 in March, which
18 is when -- at least -- let's say as late as March.
19 At that point in time you had 594 drop out in
20 August, you had 980 drop out in November, let's say.
21 It's possible that you don't even get past that,
22 that two of them have dropped out, but then if you
23 have a third one drop out for sure you get -- you're
24 not getting passed that.

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1 MR. LORENZINI: I have no further
2 questions.

3 MR. DAVIS: We're done.
4 (Whereupon the deposition
5 was concluded at 6:36 p.m.)

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1 ERRATA SHEET

2 I, STEPHEN J. BLEWITT, do hereby certify that I

3 have read the foregoing transcript of my testimony,

4 and further certify that said transcript is a true

5 and accurate record of my testimony (with the

6 exception of the following corrections listed

7 below):

8 Page Line Correction

9 -----

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20

21 Signed under the pains and penalties of perjury

22 this day of , 2007.

23

24 STEPHEN J. BLEWITT

Blewitt, Stephen (Linked) 05/16/2007 1:04:00 PM

1 COMMONWEALTH OF MASSACHUSETTS

2 SUFFOLK, SS.

3

4 I, Michelle Keegan, Registered Professional

5 Reporter and Notary Public in and for the

6 Commonwealth of Massachusetts, do hereby certify

7 that STEPHEN J. BLEWITT, the witness whose

8 deposition is hereinbefore set forth, was duly sworn

9 by me and that such deposition is a true record, to

10 the best of my ability, of the testimony given by

11 the witness.

12 I further certify that I am neither related to

13 or employed by any of the parties in or counsel to

14 this action, nor am I financially interested in the

15 outcome of this action.

16 In witness whereof, I have hereunto set my hand

17 and seal this 29th day of May, 2007.

18

19

20

21

22 Notary Public

23 My commission expires:

24 May 12, 2012

Blewitt 7/16/2004 Deposition Exhibit 30

D's Exhibit LS

APR. 13. 2001 10:12AM CAPITAL MGMT

NO. 532

P. 1

Investment Acquisition date December 2001

Expenses will be
paid before acquisition

4/17/01

WB

Private

REDACTED**JOHN HANCOCK LIFE INSURANCE COMPANY**
Bond & Corporate Finance GroupReport Date: September 21, 2000
Recommendation to B.I.C.: September 21, 2000
Report to C.O.F.: October 10, 2000**Purchase Recommendation**

GBSA \$110 mm	GBRE \$20 mm
CLDBLK \$ 30 mm	OPNBLK \$ 4 mm
PENPAR \$ 9 mm	IQA \$15 mm
LOLA \$ 8 mm	GRPLTC \$ 4 mm
RETLTC \$ 7 mm	GRPINS \$ 2 mm
BOLI \$ 4 mm	UNIVRSI \$ 5 mm
IPLI \$ 2 mm	

ABBOTT LABORATORIES ("Non-Recourse")
North Chicago, IL

We are recommending a \$220 million commitment to fund research and development expenses for a basket of eight pharmaceutical products ("Program Compounds") currently under development by Abbott Laboratories ("Abbott"). The commitment will be funded over a four-year period and will be subject to Abbott Laboratories co-funding at least two times our commitment on the Program Compounds during the same period of time. In return for the research and development payments, Abbott will agree to pay John Hancock milestone and royalty payments for each Compound that reaches regulatory approval and has commercial sales. The purpose of this transaction is to allow Abbott to increase its expenditures on research and development (to generate future growth in revenues and earnings) but to maintain current earnings.

The Program Compounds are a diversified pool of eight compounds owned by Abbott Laboratories and in various stages of clinical development. The Compounds are divided between late-stage and early-stage, including three Phase III, two Phase II, one Phase I, and two pre-clinical compounds. The Compounds are well-diversified from a disease/stage perspective, although several compounds are focused on the cancer market. Even within the cancer market, though, each of the Compounds targets either different types of cancer, or different mechanisms of action. Based on their current stage of development and projected sales levels, we think that the Program Compounds have a current market value of approximately \$1 billion. During the term of the transaction, we expect Abbott to spend approximately \$1.3 billion (including John Hancock's commitment) on further research and development for the Compounds.

Through the management fee and anticipated milestone payments, we expect to generate at least an 8% return on investment during the initial four years of the transaction. The average return is approximately 17.5% over 15 years. If we assume that we could sell our future royalty stream after the fifth year, our average five-year IRR would be about 22%.

The transaction is structured to provide a one-to two percent probability of total loss combined with a one-to-two percent chance of not earning a return. This is approximately equivalent to a 60 basis point annual loss over five years - or a "Ba1" credit rating. The expected return of 17.50% is attractive relative to the risk of the transaction.

Report Authors:Stephen J. Blewitt, Managing Director
Scott Hartz, Managing Director
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EXHIBIT NO. 30

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NO. 532 P. 2

JOHN HANCOCK LIFE INSURANCE COMPANY**Bond & Corporate Finance Group**

Report Date: September 21, 2000

Recommendation to B.I.C.: September 21, 2000

Report to C.O.F.: October 10, 2000

Private

REDACTED**Purchase Recommendation**

GBSA	\$110 mm	GBRE	\$20 mm
CLDBLK	\$ 30 mm	OPNBLK	\$ 4 mm
PENPAR	\$ 9 mm	IQA	\$15 mm
LOLA	\$ 8 mm	GRPLTC	\$ 4 mm
RETLTC	\$ 7 mm	GRPINS	\$ 2 mm
BOLI	\$ 4 mm	UNIVRSL	\$ 5 mm
IPLI	\$ 2 mm		

ISSUER: Abbott Laboratories (Non-recourse)

ISSUE: \$220 million Research and Development Funding Commitment

ISSUE RATING: JH: Ba2

BROKER: Direct

SIC CODE: 2830 - Drugs

USE OF PROCEEDS: To fund the research and development of eight pharmaceutical products ("Program Compounds") owned Abbott, and to pre-fund management fees and projected milestone payments, and to pay for transaction and administrative expenses.

STATE OF INC.: Illinois

CIRCLE DATE: August 31, 2000

TAKEDOWN DATE: Upon completion of documentation

PROGRAM PAYMENTS: During the Program Term, and in consideration of Abbott's continuing performance of the research services under the Research Plan, John Hancock shall make program payments to Abbott in the installments and on the dates set forth below:

<u>Date</u>	<u>Payment</u>
[December,] 2000	\$50,000,000
[December,] 2001	\$55,000,000
[December,] 2002	\$55,000,000
[December,] 2003	\$60,000,000

"Program Term" means the period commencing [December,] 2000 Date and ending on [December,] 2004.

"Research Plan" means a detailed statement of Abbott's objectives, activities, timetable, FTE allocation and budget for the Program Compounds during the Program Compounds during each year of the Program Term. Abbott shall provide an updated research plan on an annual basis.

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CAPITAL MGMT

NO. 532 P.3

Abbott Obligations

During the Program Term, Abbott agrees to spend, in addition to the funds provided by John Hancock, (i) a minimum of \$50 million per year and (ii) a minimum of \$400 million in aggregate on research and development programs associated with the Program Compounds.

Program Payment Termination Provisions

Unless the parties agree upon an alternative arrangement, if Abbott (a) ceases research and development of all Program Compounds or (b) does not spend at least the amount provided by John Hancock in a year on the research and development of Program Compounds or (c) does not reasonably demonstrate, in its updated research plan, its intent to spend a minimum of the amount provided by John Hancock in the next year of the Program Term or \$620 million (including the funds provided by John Hancock) in aggregate, John Hancock's obligation to continue to make Program Payments shall cease. In the case of either (a) or (b) above, Abbott will refund to John Hancock \$55 million minus half of the amount actually spent by Abbott during that year.

Carryover Provisions

If Abbott spends the amount provided by John Hancock in a year but does not spend at least an additional \$50 million, Abbott agrees to spend the difference between \$105 million and the amount actually spent in that year (the "Carryover Amount") in the subsequent year. John Hancock's obligation to make Program Payments in the subsequent year, if any, will be deferred until that time that Abbott demonstrates that it has spent the Carryover Amount in that subsequent year.

If Abbott spends the amount provided by John Hancock in each year and at least an additional \$50 million in each year, but does not spend a minimum of \$620 million (including the funds provided by John Hancock) in aggregate on research and development programs associated with the Program Compounds during the Program Term, Abbott agrees to spend the difference between \$620 million and the aggregate amount actually spent (the "Aggregate Carryover Amount") in the subsequent year. If Abbott does not spend the Aggregate Carryover Amount in the subsequent year, Abbott will refund to John Hancock one-third of the difference between (a) \$620 million and the amount actually spent.

MANAGEMENT FEE:

Commencing with the first anniversary of the Program Term and continuing until the end of the Program Term, Abbott shall pay John Hancock a fee in the amount of \$2.0 million per year as compensation for monitoring Abbott's continuing performance of its research services under the Research Plan, the development of the Program Compounds, and to reimburse John Hancock for its ongoing fees and expenses incurred in connection with this transaction.

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MILESTONE PAYMENTS:

Abbott shall make the following payments for each compound for each milestone achieved after commencement of the Program Term:

Upon the allowance of an IND application by the FDA: \$1,000,000

Upon the initiation of a Phase I Clinical Trial: \$2,000,000

Upon the initiation of a Phase II Clinical Trial: \$3,000,000

Upon the initiation of a Phase III Clinical Trial: \$4,000,000

Upon the filing of an NDA application with the FDA: \$5,000,000

Upon NDA Approval by the FDA: \$10,000,000

Aggregate milestone payments paid by Abbott, for all "non-NDA Approval" milestones achieved will not exceed \$12 million. Aggregate milestone payments paid by Abbott, for all "NDA Approval" milestones achieved will not exceed \$40 million. In addition, "non-NDA Approval" milestone payments will not exceed \$3 million in the first year or \$6 million in the second year after commencement of the Program Term.

ROYALTY PAYMENTS:

Abbott shall pay to John Hancock royalties on aggregate worldwide Net Sales of Program Compounds (all Program Compound sales combined) at the following rates:

<u>Annualized Net Sales of</u> <u>Aggregate Program Compounds</u>	<u>Royalty Rate</u>
\$0 to \$400 million	8%
>\$400 million and ≤ \$1,000 million	4%
>\$1,000 million and ≤ \$2,000 million	1%
>\$2,000 million	½%

The obligation to make royalty payments shall commence on the date of the First Commercial Sale of a Program Compound and shall continue with respect to Net Sales of such Program Compound for a period of ten years. Notwithstanding the foregoing, the obligation to make royalty payments on all Program Compounds shall not begin until after the second anniversary of the Program Term and shall cease at December 31, 2014.

HANCOCK HOLDINGS:

None

RELATED HOLDINGS:

\$29,000,000 Preferred Stock of Metabolex Corporation with Put Rights to Abbott

ANALYST:

Stephen J. Blewitt

HOUSE COUNSEL:

Amy Weed

SPECIAL COUNSEL:

Choate, Hall & Stewart

Report Authors:

Stephen J. Blewitt, Managing Director

Scott Hartz, Managing Director

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APR. 13. 2001 10:13AM CAPITAL MGMT

NO. 532 P.5

TRANSACTION OVERVIEW

In December 1999, John Hancock approached Abbott Laboratories, Inc. ("Abbott") with a financial structure that would allow Abbott to increase its research and development expenditures (to generate future growth in revenues and earnings) but maintain current earnings. The structure, which is presented in this investment recommendation, uses probability analysis on a diversified portfolio of drug compounds, supplemented by scientific due diligence, to achieve an investment grade or near investment grade risk for John Hancock and allow us to generate equity returns in the form of current (royalty) income for a sizeable investment.

This transaction requires John Hancock to commit to funding an average of \$55 million per year for a period of four years to fund the research and development of a diversified pool of eight compounds ("Program Compounds") owned by Abbott Laboratories. We have valued the Program Compounds today at approximately \$1 billion (or five times our investment) and we expect Abbott to spend over seven times our investment during the term of the transaction (during the initial four year period, Abbott will commit two times John Hancock's investment for those compounds). In return for the research and development payments, Abbott will agree to pay John Hancock milestone and royalty payments for each compound that reaches regulatory approval and has commercial sales as well as a management fee.

Through the management fee and anticipated milestone payments, we expect to generate at least an 8% return on investment during the initial four years of the transaction. The average return is approximately 17.5% over 15 years. If we assume that we could sell our future royalty stream after the fifth year, our average five-year IRR would be about 22%.

This transaction is consistent with our approach to investing in the pharmaceutical sector. During the past five years, we have invested approximately \$460 million in pharmaceutical companies. Approximately \$300 million is invested in straight debt for investment grade companies. The remaining \$160 million is invested in equity-oriented transactions where we think that there are opportunities for exceptional value. Although we have invested in a couple of straight equity transactions, approximately \$150 million of the \$160 million is invested in transactions where our downside risk is protected by either "put rights" to investment grade companies (Metabolex, Nexell), senior note positions (Celgene, Cubist), or structured portfolios of drug candidates (Pharma Marketing). In these transactions, we maintain sizable up-side potential but reduce the probability of losing all of our invested capital through the structure of our investment.

In summary, we think that the structure of this transaction, which has us co-investing with Abbott Laboratories in a diversified pool of their drug compounds, which we believe have a current value of approximately \$1 billion, over a four year period, during which time Abbott has to meet co-investment obligations and the drug compounds need to continue to progress in development, allows us to generate substantial current income that exceeds the risk associated with the transaction. Although we are committing to a substantial \$220 million investment, our expectation is that our net investment will not exceed \$176 million (due to management fees, milestone payments, and royalty payments).

The transaction is structured to provide a one-to-two percent probability of total loss combined with a one-to-two percent chance of not earning a return. This is approximately equivalent to a 60 basis point annual loss over five years - or a "Ba1" credit rating. The expected return of 17.50% is attractive relative to the risk of the transaction.

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Expected accounting treatment

There have been a number of royalty streams sold off in the form of an asset backed security. The most visible example is the David Bowie bond bought by Prudential Insurance. While this royalty transaction has many similar features, it is also different in that it is funded over a four year period and no royalties are currently being generated. We believe that at the end of the funding period we will be able to obtain a rating on the transaction that will allow it to be placed on our bond schedule. In the meantime, it will appear on our BA schedule. We plan to account for this investment using the guidance in ruling 9920 of the Emerging Issues Task Force. Ruling 9920 requires that each year, or more often if the assumptions change, we will project the expected cash flows and book income equal to the internal rate of return. Any changes to the expected cash flows will be spread over the remaining life of the transaction through the newly calculated IRR. This is the same method we use to account for our CBO equity investments. Initially we expect the IRR on this investment to be approximately 17%.

OVERVIEW OF ABBOTT LABORATORIES

Abbott Laboratories is engaged in the discovery, development, manufacture and sale of healthcare products and services. Abbott has five reporting revenue segments: Pharmaceutical Products, Diagnostic Products, Hospital Products, Ross Products and International. It also has a 50%-owned joint venture, TAP Holdings, Inc. The principal products of the Pharmaceutical Products Division are the anti-infectives clarithromycin, agents for the treatment of epilepsy, migraine and bipolar disorder, including Depakote; urology products, including Flomax for the treatment of BPH; Abbokinase, a thrombolytic drug, and the anti-viral Norvir, a protease inhibitor for the treatment of HIV. The Diagnostic Division's products include diagnostic systems and tests for blood banks, hospitals, and commercial laboratories. The Hospital Products Division sells drugs and drug delivery systems, intensive care products, cardiovascular products, renal products, and intravenous and irrigation solutions. The Ross Products Division sells adult and pediatric nutritional products such as Similac, Isomil, Ensure, Glucerna, and Pedialyte. The International Division's products include a broad line of hospital, pharmaceutical, and adult and pediatric nutritional products marketed and primarily manufactured outside the United States.

For the year ended December 31, 1999, Abbott had revenues and net income of approximately \$13.2 billion and \$2.4 billion, respectively. Abbott is rated "Aaa" by the major rating agencies. As of September 18, 2000, Abbott had a market capitalization of approximately \$74 billion.

**ABBOTT LABORATORIES
CONSOLIDATED STATEMENT OF OPERATIONS**

	Fiscal Years Ended		
	December 31,		
	1997	1998	1999
Net Sales	\$11,889	\$12,512	\$13,177
Costs and expenses:			
Cost of goods sold	5,052	5,406	5,977
Selling, general and administrative	2,695	2,759	2,857
Research and development	1,307	1,228	1,193
Total operating expenses	9,055	9,395	10,028
Operating income	2,833	3,117	3,149
Net interest expense	85	102	81
Other charges	(186)	(223)	(330)
Income (loss) before taxation	2,934	3,241	3,396
Net income (loss)	\$2,079	\$2,331	\$2,445

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TRANSACTION DETAILS**A. PROGRAM COMPOUNDS**

There are eight Program Compounds included in this transaction. The Compounds are divided between late-stage and early-stage, including three Phase III, two Phase II, one Phase I, and two pre-clinical compounds. The Compounds are well-diversified from a disease/stage perspective, although several compounds are focused on the cancer market. Even within the cancer market, each of the Compounds targets either different types of cancer, or different mechanisms of action. The products are described more fully below:

Product	Indication	JH Est. Peak Sales (\$mm)	Stage of Development
ABT 980 (BPH)	Treatment of benign prostatic hyperplasia	600	Development Stage: Phase III Expected Launch: 2003
ABT 773 (Ketolide)	Antibiotic	800	Development Stage: Phase III Expected Launch: 2003
ABT 627 (Endothelin)	Treatment of prostate cancer	700	Development Stage: Phase III Expected Launch: 2003
ABT 594 (CCM)	Non-opioid, non-NSAID analgesic	700	Development Stage: Phase II Expected Launch: 2004
E7010 (Anti-mitotic)	Cancer	500	Development Stage: Phase I/II Expected Launch: 2004
MMPI	Cancer	400	Development Stage: Phase I Expected Launch: 2005
FTI	Cancer	400	Development Stage: Pre-clinical Expected Launch: 2005
Urokinase	Cancer	400	Development Stage: Pre-clinical Expected Launch: 2005

B. SUMMARY OF ESTIMATED SALES

In estimating sales projections by Program Compound, we started with determining the expected peak sales for each Compound. We have conservatively estimated the peak sales for each Compound based on our evaluation of market potential for each Compound relative to results for other similar drugs and expected competitive drugs. In general, our level of peak sales is significantly below Abbott's level (approximately 25%) — but, because of the tiered royalty structure, the relative economic difference is not significant. Our next step was to use a Sales Curve calculated by Lehman Brothers that projects ramp-up and ramp-down for sizeable drugs. In general, this Curve shows peak sales being reached seven years after launch. Ramp-up is achieved by 5% of peak sales in the first year, followed by 13%, 25%, 50%, 80%, and 90%. Peak sales are maintained for three years, and the compound then achieves 85% of peak, 75%, 70%, etc. As expected, every compound has its own unique curve, and Lehman's is only a general estimate. We have compared the curve to IMS data of prescription sales for individual compounds in a number of drug classes from 1981 to 1999. Our analysis indicates that Lehman's curve is a good fit and we have applied that curve. The table below shows projected sales for each Compound and probability-weighted estimated sales for the entire portfolio of Compounds.

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ESTIMATED SALES PROJECTION

(\$ in millions)	Name	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
<u>Projected Sales</u>													
	ABT-980 (BPH)	30	78	180	300	480	540	600	600	600	510	0	0
	ABT-627 (Endothelin)	35	91	210	350	560	630	700	700	700	595	0	0
	ABT-773 (Ketolide)	40	104	240	400	640	720	800	800	800	680	0	0
	ABT-594		35	91	210	350	560	630	700	700	700	595	0
	E7010 (Anri-mitotic)		20	52	120	200	320	360	400	400	400	340	0
	MMPI												
	FTI			20	52	120	200	320	360	400	400	400	340
	Urokinase												
	Total Projected Sales	105	328	793	1,432	2,350	2,970	3,410	3,560	3,600	3,285	1,335	340
	Estimated Sales	76	225	531	932	1,510	1,837	2,068	2,129	2,138	1,908	530	74

For projection purposes, MMPI, FTI and Urokinase are considered as one Program Compound with a Phase I probability of success.

C. MILESTONE AND ROYALTY PAYMENTS

Under the Agreement, Abbott agrees to pay to John Hancock royalties on aggregate worldwide Net Sales of Program Compounds (all Program Compound sales combined) at the following rates: 8% on the first \$400 million, 4% on the next \$600 million, 1% on the next \$1 billion, and ½% on any amount above \$2 billion. Abbott's obligation to make royalty payments will commence on the date of the First Commercial Sale of a Program Compound and will continue with respect to Net Sales of such Program Compound for a period of ten years. Notwithstanding the foregoing, the obligation to make royalty payments on all Program Compounds will not begin until after the second anniversary of the Program Term and will cease at December 31, 2014. Based on our estimate of aggregate sales for the Program Compounds, we expect the following amounts of Royalty Payments:

(\$ in millions)	Name	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
	Estimated Sales	76	225	531	932	1,510	1,837	2,068	2,129	2,138	1,908	530	74
	Royalty Payments												
	8.0% on \$400 mm	6	18	32	32	32	32	32	32	32	32	32	6
	4.0% on \$400-\$1,000	0	0	5	21	24	24	24	24	24	24	5	0
	1.0% on \$1,000 - \$2,0	0	0	0	0	5	8	10	10	10	9	0	0
	0.5% on \$2,000+	0	0	0	0	0	0	0	1	1	0	0	0
	Total Royalty Pymts	6	18	37	53	61	64	66	67	67	65	37	6
	(average percent)	8.0%	7.0%	5.7%	4.0%	3.5%	3.2%	3.1%	3.1%	3.1%	3.4%	7.0%	8.0%

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In addition to the Royalty Payments, Abbott will be obligated to make payments to John Hancock for certain milestones achieved for each compound. The milestone and the corresponding payments are described below. Aggregate milestone payments paid by Abbott, for all "non-NDA Approval" milestones achieved will not exceed \$12 million. Aggregate milestone payments paid by Abbott, for all "NDA Approval" milestones achieved will not exceed \$40 million. In addition, "non-NDA Approval" milestone payments will not exceed \$3 million in the first year or \$6 million in the second year after commencement of the Program Term.

Upon the allowance of an IND application by the FDA:	\$ 1,000,000
Upon the initiation of a Phase I Clinical Trial:	\$ 2,000,000
Upon the initiation of a Phase II Clinical Trial:	\$ 3,000,000
Upon the initiation of a Phase III Clinical Trial:	\$ 4,000,000
Upon the filing of an NDA application with the FDA:	\$ 5,000,000
Upon NDA Approval by the FDA:	\$10,000,000

Based on the number of Compounds in the Program and the number of potential milestones for each Compound, we expect to receive \$3 million, \$6 million, and \$3 million of "non-NDA" milestone payments in the first three years. In addition, we expect to receive \$20 million in 2003 and \$10 million in 2004 for NDA Approvals.

In aggregate, the management fees, milestone payments, and royalty payments are approximately 4.3% of Net Sales of the Program Compounds. The tiered structure of the royalty payments and the up-front milestone payments, however, substantially reduce the downside of the transaction in the event that aggregate net sales are below our expected case. For example, if sales were 25% below projected, a flat 4.3% royalty rate would yield a loss ratio of 4% versus a loss ratio of 1.6% when using the tiered structure.

D. ESTIMATED CASH FLOW PROJECTIONS

Based on the calculations of Net Sales and Milestone and Royalty Payments, which are described above, the Cash Flow of this transaction is as presented in the table below. In particular, the structure provides for adequate current income during the first two-to-three years when there are no approved Compounds, and substantial current royalty income based on Net Sales of approved Compounds.

(\$ in millions)															
Name	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
JH Cash Payments	(50)	(55)	(55)	(60)											
Management Fee	0	2	2	2	2										
Milestone Payments	0	3	6	23	10										
Royalty Payments	0	0	0	6	18	37	53	61	64	66	67	67	65	37	6
Aggregate Cash Rcv'd	0	5	8	31	30	37	53	61	64	66	67	67	65	37	6
<u>JH Net Cash Flow</u>	<u>(50)</u>	<u>(50)</u>	<u>(47)</u>	<u>(29)</u>	<u>30</u>	<u>37</u>	<u>53</u>	<u>61</u>	<u>64</u>	<u>66</u>	<u>67</u>	<u>67</u>	<u>65</u>	<u>37</u>	<u>6</u>

The projected bond equivalent yield for this transaction is approximately 17.5% and the cash to invested capital ratio is 2.7 times.

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MMPI

MMPI is an inhibitor of enzymes called matrix metalloproteinase that degrade a wide range of protein substrates. High expression of these enzymes occurs in cancer and is associated with the ability of tumors to grow, invade, develop new blood vessels and metastasize.

The MMPI field is competitive. More than 30 firms have filed patents and several companies have compounds in advanced clinical development. Abbott's MMPI has the potential competitive advantage of a better side effect profile. It appears to exhibit less arthritis and tendonitis of the upper joints than its competitors. This compound is currently being evaluated in Phase I clinical trials.

Abbott hopes to submit MMPI for approval in 2004 and launch the product in 2005. The patent on MMPI expires in 2018.

FTI

FTI is an inhibitor of enzymes called farnesyltransferase that assist certain proteins, such as the Ras protein, which are critical for malignant growths.

The FTI field is competitive. Approximately four compounds are in clinical development, and an additional five are in pre-clinical studies. Abbott has not yet chosen a specific FTI to enter into human clinical trials. It expects to enter human clinical trials in 2001.

Abbott hopes to submit FTI for approval in 2004 and launch the product in 2005. The patent on FTI is not expected to expire prior to 2014.

Urokinase

Urokinase is an inhibitor of enzymes called urokinase which are believed to promote the metastases of tumors by breaking down cell membranes.

The Urokinase field is less well-developed than MMPI and FTI. No compound has currently made it into clinical trials. Abbott is currently evaluating several compounds. If Abbott fails to take a Urokinase compound into clinical trials, Abbott will substitute another Phase I compound into the Program.

Abbott hopes to submit Urokinase for approval in 2004 and launch the product in 2005. The patent on Urokinase is not expected to expire prior to 2014.

Our scientific consultant, Dr. Edward Sausville, National Cancer Institute, has indicated that "cytostatic" therapies such as MMPI, FTI and Urokinase may be useful upon recurrence of cancer as a means to stopping the progression of the disease. He believes that they will be useful in combination with other therapies and may not be exceptional compounds by themselves.

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Biaxin. Unlike macrolide antibiotics, ketolides are active against *s. pneumonia* and *h. influenza*. The antibiotics market size is approximately \$25 billion; macrolides account for approximately 13% and have an increasing market share. Only one ketolide (*Ketek*) is in advanced clinical trials; this compound, discovered by Aventis, was approved for sale in Europe and was been submitted to the FDA for approval in February 2000. Aventis expects to launch *Ketek* in 2001.

ABT-773 entered Phase III clinical trials this past summer. Abbott expects to submit ABT-773 for approval in June 2002 and launch the product in August 2003. The patent on ABT-773 expires in 2016.

Our scientific consultant, Dr. Robert C. Moellering, Jr., Harvard Medical School and Beth Israel Medical Center, confirmed the scientific rationale for ketolides and their market potential. Based on information that he has seen, Dr. Moellering believes that ABT-773 has more promise than Aventis' *Ketek*.

ABT-594

ABT-594 is a non-opioid, non-NSAID analgesic compound that is orally-administered for the treatment of diabetic neuropathic pain. In animal models, the compound has been shown to be substantially more potent than morphine with a better side effect profile. Neuropathic pain is a substantial and underserved market. Approximately 4-5 million people are thought to suffer from neuropathic pain but only a few medications provide complete pain relief and most medications have significant side effects. As more effective and tolerable medications become available, the neuropathic pain market is expected to experience significant growth.

ABT-594 is currently in Phase II clinical trials. If Phase II and Phase III trials are successful, Abbott expects to submit ABT-594 for approval in May 2003 and launch the product in July 2004. The patent on ABT-594 expires in 2016.

Our scientific consultant, Dr. Mitchell Max, NIH, eliminated an initial concern of ours that the "therapeutic window" of ABT-594 was too short and would potentially block approval. Dr. Max indicated that ABT-594's therapeutic window was acceptable. Dr. Max was not able to fully address toxicity issues raised by two of Abbott's competitors that the compound demonstrated opioid-like side effects in mice. These toxicity issues have not been found by Abbott in its mice or human trials. Dr. Max believed that ABT-594 showed a good profile in mice.

ABT-627

ABT-627 is an inhibitor of a family of endothelin peptides that cause constriction of vascular muscles and stimulate cell proliferation. ABT-627 is currently being developed by Abbott for the treatment of prostate cancer, and other cancer types.

Prostate cancer ("PCA") is the most common cancer to strike non-smoking men. Approximately 1.7 million men live with prostate cancer in the U.S., and there are approximately 180,000 newly diagnosed cases each year. The primary treatment of advanced stage PCA is hormone therapy. Patients receiving hormone therapy become resistant to this treatment after two to three years and then have a life expectancy of only about twelve months.

The primary benefit of ABT-627 is to reduce the pain associated with PCA and to delay the progression of the disease (but not necessarily improve survival).

ABT-627 is currently in Phase III clinical trials. If Phase III trials are successful, Abbott expects to submit ABT-627 for approval in December 2003 and launch the product in June 2004. The patent on ABT-627 expires in 2015.

Our scientific consultant, Dr. Joel Byron Nelson, MD, University of Pittsburgh, has indicated that ABT-627 is safe, significantly reduces pain associated with PCA, and delays disease progression.

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APPENDIX PRODUCT DESCRIPTIONS

ABT-980

ABT-980 is a selective alpha blocker for the treatment of benign prostatic hyperplasia ("BPH"), a disorder that affects approximately 10 million middle-aged and elderly males in the U.S. The primary symptom of BPH is obstruction of urinary outflow and increased frequency of urination. Global sales of BPH products is approximately \$2 billion and is expected to continue to grow as the population ages and as better treatments become available. Currently, alpha blockers, including Abbott's Hytrin which recently became generic, are the most frequently prescribed pharmaceutical treatment for BPH. ABT-980 has the benefit of other alpha blockers, but since it only inhibits alpha receptors in the urinary tract, side effects on the cardiovascular system and central nervous system are expected to be reduced substantially.

One other selective alpha blocker, Boehringer Ingelheim's Flomax, the FDA and has been on the market since 1999. Flomax's current sales are approximately \$300 million. Abbott completed Phase II clinical trials and entered Phase III trials this past summer. In its Phase II trials, Abbott demonstrated that it is effectively equivalent (based on safety and efficacy) to Flomax.

This month, Abbott has learned that in long-term studies with rats, that about 15% of the rats given ABT-980 developed gallstones. Abbott does not know if these results are applicable to humans and at what frequency; however, there is no evidence of gallstones in humans to-date. In addition to its usual clinical trials, Abbott will try to determine whether gallstones will develop in humans over the long-term and what implications that may have. If ABT-980 fails due to this gallstone issue, Abbott will replace ABT-980 with another compound.

Abbott expects to submit ABT-980 for approval in June 2002 and launch the product in August 2003. The patent on ABT-980 expires in 2016.

E-7010

E-7010 is a compound that Abbott licensed from Eisai Co. Ltd. in July 2000. E7010 has completed Phase I trials for various oncology applications. E7010 is an oral medication with a unique mechanism of action that enables it to stop cell mitosis with fewer side effects than current cytotoxic therapies. Although financial terms of the Abbott-Eisai agreement have not been publicly disclosed, Abbott is committing \$25 million in up-front and milestone payments to Eisai and will pay a double-digit royalty percentage on net sales. As a result of in-licensing E7010, Abbott has discontinued development of its own internally developed "anti-mitotic" compound.

Anti-mitotic compounds are not new. Taxol, the largest selling cancer drug, is an anti-mitotic. E7010, however, binds to a different site of a cell's microtubules than Taxol, and inhibits cell proliferation in a unique manner which is believed to cause fewer side effects.

E7010 has successfully completed Phase I clinical trials in Japan. These trials may be repeated in the U.S. but Abbott expects to move quickly into Phase II trials. Abbott expects to submit E7010 for approval in 2003 and launch the product in 2004. The patent on E7010 expires in 2011.

Our scientific consultants, Dr. Dennis A. Carson, UCSD School of Medicine, and Dr. John Kavanaugh, Jr., MD Anderson Cancer Center, did not have specific knowledge about the Abbott/Eisai compound. However, each researcher provided us with consistent critical benchmarks to evaluate the compound (such as whether the compound has been tested against specific cancer cell lines, whether the compound has been tested in combination with other anti-cancer agents. We have confirmed that Abbott independently addressed these critical benchmark and received positive results.

ABT-773 (Ketolide)

ABT-773 is a member of a novel group of ketolide antibiotics within the macrolide group of antimicrobials. Ketolides have a similar mechanism of action to other macrolides such as Pfizer's Zithromax and Abbott's

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CHART I
BASE CASE

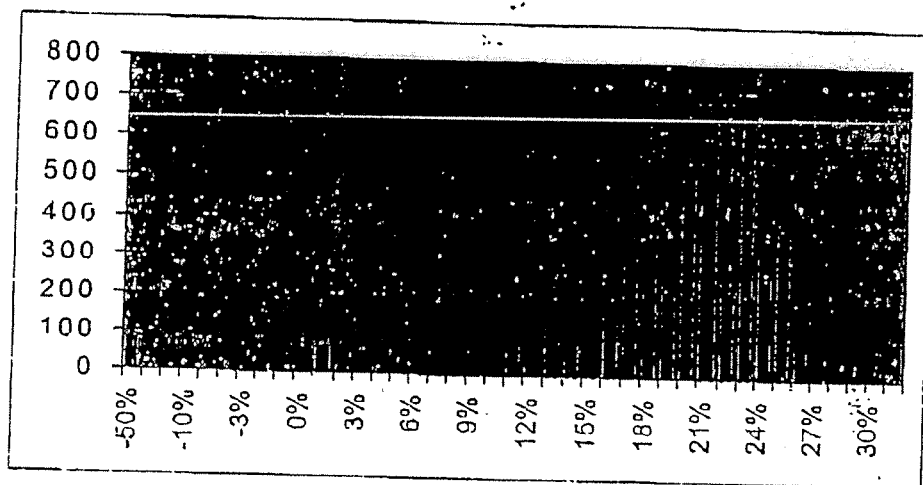
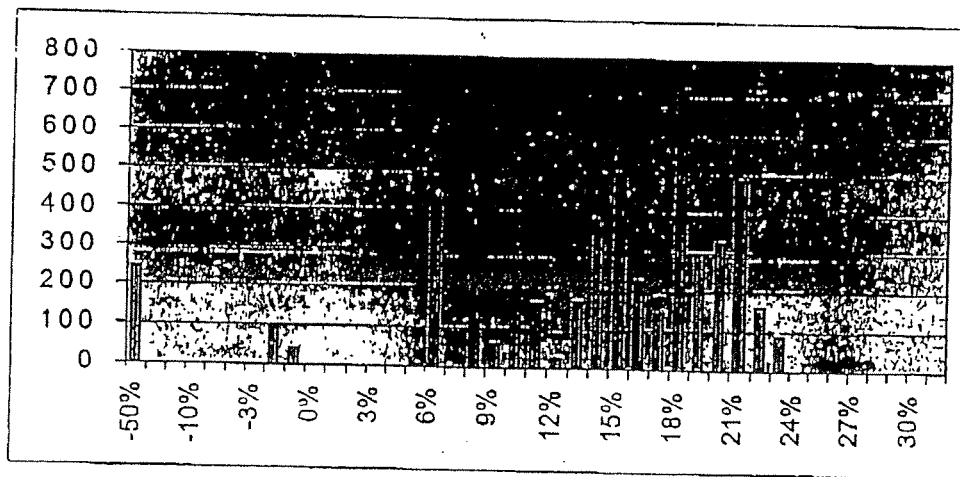


CHART II
DOWNSIDE SCENARIO



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Risk Analysis.

The fundamental risks of this transaction are whether Abbott receives marketing approval from the FDA for a sufficient number of the Program Compounds and whether the commercial success of the Compounds are as we expect. In developing the *expected return*, we have made a number of reasonable assumptions regarding the probability of obtaining FDA approvals, acceptance of the products in the marketplace and competition. In many cases, our assumptions are significantly more conservative than Abbott's.

Again looking at our base case (which is demonstrated in the Chart I on the next page), the probability of no successful drugs is approximately 1.7% (the bar on the left). There are also a number of scenarios that produce a return of approximately 1% - 2%. These scenarios arise when only a cancer drug is successful. The cancer drugs have lower anticipated revenues, as well as lower probabilities of success, than any of the other drugs. This represents about 1.6% of the scenarios. All other scenarios give us a return of 9% or more. Assuming a 1-2% return represents a loss of half our original investment, the expected loss in this simulation is $1.7\% + \frac{1}{4} \times 1.6\% = 2.5\%$. Spread over a four year duration, the annual expected loss is 62 basis points which corresponds to the risk of a Baa1 rated bond.

We also ran a downside simulation, where the probabilities of success are discounted by 25% from the DiMasi study and the expected revenues are discounted by 25% from our base case (this is shown in Chart II on the next page).

The average return in this downside scenario is 9.3%. The probability that no drugs are successful rises dramatically to 4.9%. The low return scenario is now even lower (-2%) and also has a higher probability (2.7%). So, the annual expected loss is $(4.9\% + .6 \times 2.7\%) / 4 = 1.65\%$ basis points which corresponds to the risk of a Baa1 rated bond.

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approximately 20%. The probability of this is $100\% - 1.6\% - 9.4\% = 89\%$. Hence, the weighted average return on the investment is $1.6\% \cdot 0 + 9.4\% \cdot 8\% + 89\% \cdot 20\% = 18.5\%$.

This example is obviously a simplification. Each of the drugs has a different probability of success, depending upon how far along each is in the approval process, and a different revenue profile. To reflect the different probabilities and different revenue streams, we developed a spreadsheet model that incorporates multiple drug compounds (and their specific probability of success, time to launch, and expected sales pattern) and a variable milestone/royalty structure. We then ran the spreadsheet model 500 times to provide us a range of outcomes as well as the expected results for returns and losses.

In our base case, we have made the following assumptions:

Product	Phase	JH Probability Of Approval	Launch	JH Peak Sales
BPH	Phase III	65%	2003	\$600 mm
Ketolide	Phase III	70%	2003	\$800 mm
Endothelin	Phase III	70%	2003	\$700 mm
CCM	Phase II	50%	2004	\$700 mm
Antimitotic	Phase I/II	40%	2004	\$500 mm
MMPI	Phase I	10%	2005	\$400 mm
FTI	PC	10%	2005	\$400 mm
Urokinase	PC	10%	2005	\$400 mm

... and calculated the average bond equivalent yield of this scenario to be approximately 17.3%. It is important to note that the expected IRRs are over a long period of time (15 years). Assuming that we could sell our future royalty stream after the fifth year, our five-year IRR would be about 22%.

Analysis of Return

The last step of our analysis was to determine what a fair economic return for this transaction should be. We have benchmarked this transactions in a number of ways, such as: R&D vehicles for pre-clinical compounds were sold with expected IRRs (over a three-to-five year period) of approximately 40%; Hambrecht & Quist has estimated pharmaceutical IRRs for single phase-II compounds to be 40% and single phase-III compounds to be 25%; the Palisade Partners (Sony movies) transaction that we participated in last year has an expected IRR of 20%; Elan Pharmaceuticals' pooled transaction has an expected five-year IRR of 13%; limited partner equity funds have about a 25% expected net IRR; and our proprietary analysis of the equity market's IRR for Abbott's entire R&D pipeline of 16-22%. Based on these comparisons, we think that an IRR of 17% over a long period of time is reasonable.

We also evaluated the relationship between our investment (and Abbott's) in the entire portfolio and the average royalty rate that we expect to receive – which is approximately 4-5%. We estimate that the current value of the compounds that Abbott is contributing to the transaction is about \$1 billion. During the four year investment period, Abbott expects to invest \$800 million on the compounds, in addition to our \$200 million. Based on these amounts, our investment is approximately 10% of the total invested dollars. Most pharmaceutical companies earn about a 50% pre-tax margin (excluding R&D expenses) on sales. On a net basis, then, our expected royalty and milestone percentage should be about 5%.

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Probabilities of Success

Based on the development stage of each compound, we assigned probabilities of success ("regulatory approval") and time to success for each compound. Our probabilities of success come from a 1995 study by Dr. Joseph A. DiMasi at the Tufts Center for the Study of Drug Development, and were modified based on our specific knowledge of the Program Compounds. Dr. DiMasi's study is generally accepted by the pharmaceutical industry as an accurate assessment of the probability of success and of the time and costs associated with drug development. Dr. DiMasi looked at a random sample of 93 compounds in four broad disease categories from 12 pharmaceutical companies that were first tested in humans between 1970 and 1982.

Dr. DiMasi's results are summarized below:

PROBABILITY OF SUCCESS

Entering Phase	NSAID	Cardio-vascular	Anti-infective	Neuro-pharm	All
I	22%	26%	30%	20%	23%
II	30%	41%	38%	22%	31%
III	71%	72%	77%	51%	63%

Dr. DiMasi calculated the average time to approval as 8.75 years for compounds entering Phase I, 7.5 years for compounds entering Phase II, and 5.5 years for compounds entering Phase III. Embedded in these times was an approximately 30-month review process by the FDA. Due to legislative and process changes, the average FDA review time is now approximately 12 months. A revised timeframe for approval (which was been published by TCSD in 1999), based on accelerated review by the FDA, and quicker processes within the pharmaceutical companies, is 6.0 years for Phase I, 5.0 years for Phase II, and 3.0 years for Phase III.

Sales Estimates

In estimating sales projections by Program Compound, we started with determining the expected peak sales for each Compound. We have conservatively estimated the peak sales for each Compound based on our evaluation of market potential for each Compound relative to results for other similar drugs and expected competitive drugs. In general, our level of peak sales is significantly below Abbott's level (approximately 25%) – but, because of the tiered royalty structure, the relative economic difference is not significant. Our next step was to use a Sales Curve calculated by Lehman Brothers that projects ramp-up and ramp-down for sizeable drugs. In general, this Curve shows peak sales being reached seven years after launch. Ramp-up is achieved by 5% of peak sales in the first year, followed by 13%, 25%, 50%, 80%, and 90%. Peak sales are maintained for three years, and the compound then achieves 85% of peak, 75%, 70%, etc. As expected, every compound has its own unique curve, and Lehman's is only a general estimate. We have compared the curve to IMS data of prescription sales for individual compounds in a number of drug classes from 1981 to 1999. Our analysis indicates that Lehman's curve is a good fit and we have applied that curve. The table below shows projected sales for each Compound and probability-weighted estimated sales for the entire portfolio of Compounds.

Financial Model and Results

We've modeled the returns on this portfolio of drugs using a Monte Carlo simulation and assuming their probabilities of success are independent. Let's start, however, with some simplifying assumptions to get better intuition on the risk of the transaction. Assume the probability of success of each drug is 50%, the drugs are independent, and that the success of any one drug will give us a return of 8% on the transaction. In this case, we will lose all our investment only if all the drugs fail. The probability of this is $(1/2)^6 = 1.6\%$. Spread over a 4 year duration, the expected annual loss is 40 basis points which implies the same risk as a Baa3 bond. If only one drug is successful, which should occur with the probability of $(1/2)^6 * (6/1/1) = 6/64 = 9.4\%$, the return, in our simplified model, is 8% on the entire investment. This is approximately 200 basis points over Treasuries. If two or more drugs are successful, the structure caps the investment's return at

APR. 13. 2001 10:16AM CAPITAL MGMT

NO. 532 P. 11

TRANSACTION ANALYSIS

The structure of this transaction (which includes a diversified pool of eight Abbott compounds, and a tiered royalty structure) offers a substantial likelihood that we will receive a long-term bond equivalent yield of approximately 17.5% which is substantially greater than the inherent risk of the transaction.

Expected Return

Methodology

Determining the fair economics of the proposed transaction is highly dependent upon the number of compounds included, the characteristics of the compounds (i.e. status of development, potential sales), the structure of the royalty rates, and an estimation of what is a fair return. To help us answer these questions, we have taken several steps. First, we have researched industry standards for likelihood of success and probable sales curves for compounds in different stages of development. Second, we have developed a spreadsheet model that calculates the rate of return for a chosen portfolio and have developed a minimum number of compounds and associated milestone/royalty payments to provide us with returns that adequately compensate us for the risk we are taking. Third, we have tried to determine what rate of return the capital markets would require for the level of risk that we are willing to take.

The Program Compounds consist of five of Abbott's late-stage development compounds and a basket of three pre-clinical cancer compounds. The late-stage compounds range from mid-Phase II to starting Phase-III. Peak annual sales for these compounds range from \$400 million to \$800 million. With the exception of the "cancer basket", the compounds are independent of each other. Our due diligence provided us with results consistent with Abbott's representations and expectations for the Program Compounds, although we have scaled back sales projections significantly.

Our scientific and market diligence for the portfolio of compounds consisted on a number of steps. As a first step, we received internal scientific and business write-ups from Abbott for each Program Compound. The material provided by Abbott demonstrated the scientific rationale for the compounds, results of clinical trials, and a competitive analysis. Through financial reports, we searched for all references to Abbott's compounds and all references to competitive compounds in the same class or same disease category. We used this information to evaluate the potential size of markets for the Program Compounds and their competitive landscape. We engaged Dr. Lynn Klotz to search the major drug and medical databases for scientific reports on the Program Compounds and competitive compounds in the same class or same disease category. We used this information to evaluate, from a scientific perspective, what research scientists had discovered about the Program Compounds from an efficacy and safety perspective. We also used this information to identify potential experts to contact for additional questions. Finally, Dr. Klotz contacted the experts on a non-disclosure basis (not revealing that we were looking at Abbott compounds) and asked the experts to assess the Program Compounds and any potential competitive products from an efficacy and market potential perspective. In summary, none of our diligence revealed any information that was materially different than what Abbott had provided to us.

Dr. Lynn Klotz is a former professor of Biochemistry and Molecular Biology at Harvard University and a former officer of two biotechnology companies, BioTechnica and Codon. Dr. Klotz is currently an independent consultant. His most recent assignment was as a member of a four-person team consulting with the President of Mississippi State University to provide a strategic plan for their Life Sciences Institute.

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APR. 13. 2001 10:15AM CAPITAL MGMT

NO. 532 P. 10

E. SUMMARY BUDGET

Abbott will be using the funds from this transaction to invest in the research and development of a specific pool of drug compounds, and to pre-fund management fees and projected milestone payments. These funds will be part of a total investment by Abbott of approximately \$1,300 million during the next ten years and \$900 million over the four year co-investment period. In addition, based on the stage of the development of the Program Compounds, and their expected sales, we have valued the Program Compounds today at approximately \$1 billion. Our valuation is based on our knowledge of "out-licensing" transactions between pharmaceutical companies and the milestone and royalty structure that is market for different stage compounds. In general, out-license transactions provide the licensor with a royalty rate of between 10% (for Phase I compounds) to 30% (for Phase III compounds) and a 50/50 split for compounds that have completed Phase III. Using an average 20% royalty applied to estimated sales and a 15% discount rate, we arrived at a value of approximately \$1 billion.

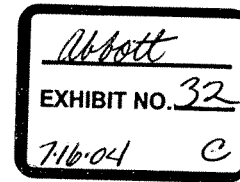
The following table summarizes the Company's expected budget during the Program Period:

(S in millions)		2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	Total
Name													
<u>Projected Budget</u>													
ABT-980 (BPH)		80	40	30	30	20	20	10	10	10	10	10	270
ABT-627 (Endothelin)		40	40	20	20	20	20	20	10	10	10	10	220
ABT-773 (Ketolide)		135	60	42	42	27	27	27	17	17	17	17	428
ABT-594		70	80	30	20	20	20	20	20	10	10	10	310
E7010 (Anti-mitotic)		20	30	35	20	30	10	10	5	5	5	5	175
MMPI		20	30	35	20	23	15	15	5	5	5	5	178
FTI		5	10	37	17	15	15	5	5	5	5	5	124
Urokinase		15	25	35	33	15	15	5	5	5	5	5	163
Total Projected Budget		385	315	264	202	170	142	112	77	67	67	67	1,868
Estimated Budget		327	250	201	134	90	81	66	45	40	40	40	1,314

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D's Exhibit LT



Memorandum To: File

Re: Abbott Laboratories ("Non-Recourse")

B file

Background

In October 2000, the Committee of Finance approved a \$220 million commitment to fund research and development expenses for a basket of pharmaceutical products currently under development by Abbott Laboratories. During the documentation process, which was completed on March 13, 2001, certain terms of the transaction were modified, although the basic economics were not materially changed. This memorandum describes the significant changes to the transaction compared to the initial report to the Committee of Finance.

Modifications

The Commitment Amount was reduced from \$220 million to \$214 million.

The basket of pharmaceutical products was modified and increased from eight to nine (see Program Compounds below for further details).

The Program Payments were changed from:

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	<u>Original</u>	<u>Revised</u>
December 2000	\$50,000,000	\$ 0
December 2001	\$55,000,000	\$50,000,000
December 2002	\$55,000,000	\$54,000,000
December 2003	\$60,000,000	\$58,000,000
December 2004	\$ 0	\$52,000,000

The Program Term was changed from "commencing December 2000 and ending on December 2004" to "commencing March 2001 and ending on December 2004".

The Milestone Payments Upon NDA Approval by the FDA were changed from \$10,000,000 to \$20,000,000 for the first Product and \$10,000,000 for the second and third Products.

The Aggregate Milestone Payments for all "non-NDA Approval" milestones was changed from \$12,000,000 to \$8,000,000.

The Royalty Payments were changed from:

	<u>Original</u>	<u>Revised</u>
\$0 to \$400 million	8%	8½%
>\$400 and ≤ \$1,000 million	4%	4%
>\$1,000 and ≤ \$2,000 million	1%	1%
>\$2,000 million	½%	½%

The Royalty Payments shall cease on December 31, 2015 instead of December 31, 2014.

The Program Compounds were modified as follows:

Program Compound ABT-980 and the Urokinase Program were removed from the basket. Program Compounds ABT-492 and ABT-751 and the ED Program were added to the basket. The assumptions for the added Program Compounds are:

<u>Product</u>	<u>Indication</u>	<u>Peak Sales</u>	<u>Stage of Development</u>
ABT-492	Anti-infective	\$400 million	Phase I/2005
ABT-510	Cancer	\$400 million	Phase I/2006
ED	Erectile Dysfunction	\$400 million	Pre-clinical/2007

In addition, a provision was added that requires Abbott to substitute an additional Phase II compound with no less commercial value than initially expected for ABT-492 and ABT-510 if either ABT-492 or ABT-510 fails to enter a Phase II Clinical Trial. We modeled this contingent additional compound as a Phase II compound with 40% probability of success, \$400 million of peak sales, 2006 launch date. We assumed that the probability of obtaining the contingent additional compound in the basket was approximately 84%.

Affect of Modifications on Model Results

Our initial model (without adjustments for conservatism) provided a probability of loss of approximately 0.9% and a median return of approximately 17.5% and a mean return of approximately 15.9%. Our revised model (without adjustments for conservatism) provides a probability of loss of approximately 1.3% and a median return of approximately 18.8% and a mean return of approximately 16.2%.

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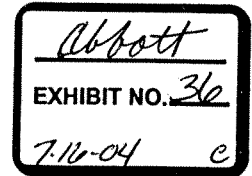
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D's Exhibit LU

FW: Abbott Labs -- Heads up

Page 1 of 1

From: Welch, Barry [bwelch@jhancock.com]
Sent: Friday, March 14, 2003 4:32 PM
To: Blewitt, Stephen
Cc: Nastou, Roger
Subject: FW: Abbott Labs -- Heads up



Steve:

I had a good conversation w/ John about

- context of equity investing program (this, project equity, etc.)
- confirmed that we hold on BA schedule, w/ 30% RBC charge
- he reacted especially to size -- I suggested more like 8 separate "bets" totaling up to \$220mm
- reviewed low odds that none hit, only one hits, etc.

Also suggested that he could probably visit with you a bit more on the background of our thinking about/support for Odds on drugs at stage x, y, z with FDA of receiving final approval.

Beyond just Abbott, I want him to have a chance to get a better feeling for the strength of our analysts -- how we think about risk, ratings, etc. so we build credibility over time.

Thanks,
Barry

-----Original Message-----

From: Mastromarino, John
Sent: Friday, March 14, 2003 8:59 AM
To: Welch, Barry; Nastou, Roger
Subject: Abbott Labs

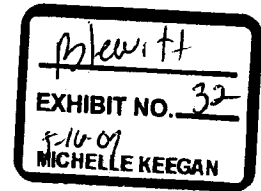
Hi guys, well, I read the write-up on the 220MM last night, a very thoughtful piece and certainly a lot of effort and research went into the approval document. I must say it is a bit too rich for my taste with too many assumptions and unknowns; and how would I ever explain should it not work out as predicted. But even if I could get comfortable with the legitimacy of it all, the size of this deal is beyond my threshold, and certainly beyond the house limit for what is, at best, a B rated credit risk. All driven, no doubt, by our need to continually reach for yield to meet corporate ROE goals. j

John L. Mastromarino
Chief Risk Officer
Enterprise Risk Management
617-572-6262
617-572-6212 (fax)

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D's Exhibit 821



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ABT – 773

Descriptive Memorandum

May 2000

Abbott Laboratories

June 5, 2000

Hancock – ABT-773

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ABBT246466

ABT-773*Opportunity Overview*

ABT-773 pertains to a promising new class of antibiotics known as ketolides. ABT-773 is likely to have activity against resistant strains of bacteria and will, therefore, compete effectively against currently marketed antibiotics. The compound is currently in Phase IIb trials. It is scheduled to begin in phase III clinical trials in Q4, 2000 and has an expected U.S. launch date of January 2003. Ex-U.S. launches are projected for 2003 and 2004 for Europe and Japan, respectively.

Product features such as high efficacy, activity against resistant strains of bacteria and convenience should enable it to compete against both Zithromax and newer agents such as the quinolones. Dosing is expected to be once-a-day. A 5-day convenience pak at a competitive price will help maximize sales. Worldwide sales, including tablet/capsule, oral suspension and intravenous (I.V.) forms, are projected to top \$1 billion by 2007.

The US Market

The overall antibiotic market in the U.S. reached \$8.9 billion in sales in 1999. The tab/cap segment is the largest; sales in 1999 were \$5.7 billion. The I.V. and oral suspension segments are comparatively smaller; total sales topped \$2.1 and \$1.1 billion, respectively.

Tab/cap and oral suspension prescription volume had been declining 1-2% per year in the period of 1995-1998, due to more appropriate prescribing in the face of increasing resistance. However, total tab/cap prescription volume recovered in 1999 and grew 6.3%. Even in the face of negative pressure on antibiotic use, dollar sales in the U.S. have continued to increase, particularly in the tab/cap market. This is due to the trend of replacing relatively low-cost generic agents with higher priced premium antibiotics. The market is willing to bear higher costs for agents that satisfy unmet needs. The I.V. market has grown slightly in terms of sales, also being driven largely by the replacement of generic agents with more costly branded agents.

Macrolides, largely fueled by the gains of Zithromax, have seen significant growth in terms of both prescriptions and sales. Zithromax prescriptions far outnumber those of other competitors, while its sales have nearly surpassed those of the sales leader, Cipro. Historically, quinolones saw relatively limited use for community respiratory tract infections (RTIs) because of poor Gram-positive coverage and sub-optimal adverse event profiles. Newer quinolones such as Levaquin have been successful in achieving more widespread use by virtue of its improved activity and adverse event profile. Levaquin currently accounts for approximately 30% of quinolone market share. It is anticipated that recent quinolone introductions (Avelox, Tequin) will build upon the RTI momentum established by Levaquin. The growth of the macrolide and quinolone classes has come largely at the expense of cephalosporins and generic agents such as erythromycin and penicillin.

The following table shows 1999 tab/cap sales and prescriptions by class/product:

	Sales			TRXs		
	Sales (\$MM)	Share	CAGR ₉₅₋₉₉	TRXs (MM)	Share	CAGR ₉₅₋₉₉
Penicillins	\$148.3	2.6%	-1.0%	52.5	23.7%	-5.6%
Cephalosporins	\$980.9	17.2%	-5.8%	37.9	17.1%	-3.5%
Ceftin	\$383.9	6.7%	1.8%	5.0	2.3%	-1.0%
Cefzil	\$188.7	3.3%	12.5%	2.7	1.2%	11.3%
Other	\$408.3	7.1%	-14.7%	30.1	13.6%	-4.8%
Ext. Spec. Macrolides	\$1,595.6	27.9%	19.9%	36.1	16.3%	20.8%
Biaxin	\$690.5	12.1%	6.1%	11.3	5.1%	1.2%
Zithromax	\$891.1	15.6%	42.1%	24.4	11.0%	41.5%
Other	\$14.0	0.2%	21.0%	0.4	0.2%	53.0%
Quinolones	\$1,622.1	28.4%	17.0%	24.0	10.8%	11.7%
Cipro	\$902.5	15.8%	8.3%	14.1	6.4%	5.1%
Levaquin	\$529.4	9.3%	NA	7.0	3.1%	NA
Other	\$190.2	3.3%	-2.2%	3.0	1.3%	-6.4%
Augmentin	\$778.1	13.6%	17.8%	10.7	4.8%	11.8%
Other Classes	\$590.5	10.3%	-1.1%	60.4	27.3%	-4.1%
TOTAL TAB/CAP	\$5,715.4	100.0%	8.9%	221.5	100.0%	0.1%

Descriptive Memorandum: ABT - 773

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ABBT246467

U.S. Market Projections

Resistance to antibiotics is likely to increase, creating opportunities for new agents with activity against resistance. Physicians will be urged to choose agents with an appropriate spectrum of activity relative to the infection being treated. Resistance will increasingly become part of the promotional mix for emerging agents. The ability of an agent to treat resistant strains and the real or perceived ability to slow or prevent resistance development (mutation prevention concentration, low mutation frequency, structure-activity relationships, etc) may confer competitive advantage to such agents.

- Quinolones, which historically have seen limited use in community-acquired respiratory infections, will become a significant class in this segment as new agents from this class are launched that specifically target RTIs.
- The market will become more competitive as new agents enter both the community segment (ketolides, quinolones) as well as the nosocomial segment (oxazolidinones, streptogramins, everninomycins, peptides, others).
- Several key branded antibiotics will lose patent exclusivity over the next three to five years.. This may create an opportunity in the pediatric market as the top three pediatric brands (Augmentin, Cefzil, Zithromax) are among those losing patent exclusivity.

Antiviral influenza and cold therapeutics, as well as an increasing number of antibacterial vaccines may have a negative impact on antibiotic prescriptions.

The Ex-U.S. Market

Ex-U.S. sales of antibiotics totaled \$11.7 billion in 1999. Tab/cap represents the largest segment, with sales of \$9.4 billion from 770 million total prescriptions. Total Rx growth has been flat, with a 1996-99 CAGR of 0.5%. The use of antibiotics is predicted to slowly decline due to more judicious use of antibacterials in the face of increasing bacterial resistance.

Ex-U.S., the quinolone class accounted for 8% of total tab/cap market prescriptions (62 million Rx's) and 13% of sales (\$1.2 billion). Ciprofloxacin is the market leader ex-U.S. with approximately 47% of the quinolone market Rx's (29 million Rx's) and 44% (\$530MM) of sales. Levofloxacin launched in many European markets in 1998/1999 and holds approximately 14% Rx share of the European quinolone market and 0.8% of the overall tab/cap market. Although grepafloxacin and trovafloxacin also launched in some European countries in 1999, both products were recently pulled from the market due to liver toxicity and other complications. Moxifloxacin launched in Germany in Q4 1999, but has not yet been approved in other markets. In Japan, levofloxacin launched in 1994 and still commands a 65% Rx share of the quinolone market and 10% of the Japanese tab/cap market overall. Japan accounts for approximately 80% of ex-U.S. levofloxacin sales (\$370MM).

Scientific Rationale for ABT-773

The likely profile of ABT-773 justifies further development:

- ABT-773 pertains to a new class of antibiotics.
- Good activity against resistant gram + organisms, particularly macrolide resistant *S. pneumoniae*.
- Convenience, safety, and tolerability profile competitive with Z-pak.
- Oral Suspension and I.V. forms enabling penetration into pediatrics and hospital segments.

Clinical Studies

The safety and efficacy of ABT-773 in AECB were studied in a multi-center Phase II clinical trial conducted between January and April of 1999. Dosing regimens of 100mg TID and 200mg TID were tested. Of the 169 enrolled patients, 159 were clinically evaluable and 96 were both clinically and bacteriologically evaluable. The following chart summarizes the results.

Presumed Bacterial Eradication	ABT-773 100mg TID	ABT-773 200mg TID	Overall Eradication
<i>S. pneumoniae</i>	100% (13/13)	90% (9/10)	96% (22/23)
<i>M. catarrhalis</i>	100% (6/6)	100% (7/7)	100% (13/13)
<i>H. influenzae</i>	96% (23/24)	92% (24/26)	92% (47/50)
<i>H. parainfluenzae</i>	100% (6/6)	88% (7/8)	93% (13/14)

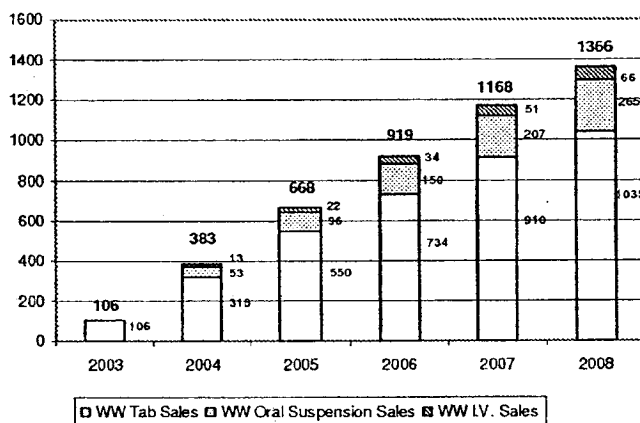
Clinical Response	ABT-773 100mg TID	ABT-773 200mg TID
Cure	96% (77/80)	92% (73/79)
Failure	4% (3/80)	6% (3/48)

Clinical and Bacteriological Response	ABT-773 100mg TID	ABT-773 200mg TID
Cure	96% (46/48)	94% (45/48)
Failure	4% (2/48)	6% (3/48)

Adverse Events	ABT-773 100mg TID	ABT-773 200mg TID	Overall
Taste Perversion	5% (4/84)	8% (7/85)	6.5% (11/169)
Diarrhea	11% (9/84)	6% (5/85)	8% (14/169)
Nausea	2% (2/84)	2% (2/85)	2% (4/169)
Abdominal Pain	1% (1/84)	2% (2/85)	2% (3/169)
Headache	2% (2/84)	1% (1/85)	2% (3/169)
Rash	2% (2/84)	1% (1/85)	2% (3/169)
Dyspnea	2% (2/84)		1% (2/169)
Elev. Liver Funct. Test	1% (1/84)	1% (1/85)	1% (2/169)
Fever		2% (2/85)	1% (2/169)

Patent Status

ABT-773 will have patent exclusivity through 2016.

*Financial Projections***Total Worldwide ABT-773 Net Sales (\$MM)**

Total Worldwide ABT-773 Net Sales by Form (\$MM)						
	2003	2004	2005	2006	2007	2008
US Tablet Sales	64	159	289	383	481	570
US Oral Suspension Sales		41	59	88	123	162
US I.V. Sales		12	18	26	37	48
Total U.S. Sales	64	212	366	497	641	780
Ex-US Tablet Sales	43	157	261	352	430	465
Ex-US Oral Suspension Sales		12	38	63	84	103
Ex-US I.V. Sales		1	4	8	14	18
Total Ex-US Sales	43	170	303	423	528	586
Total Worldwide ABT-773 Sales	106	383	668	919	1168	1366

Assumptions for Financial Projections

- The tab form of ABT-773 launches in the U.S. and ex-U.S. in 2003; I.V. and oral suspension launch in 2004.
- 5 day QD compliance pak available.
- ABT-773 priced competitively with other macrolides, ketolides and quinolones in market at time of launch.
- Efficacy against multi-drug resistant Strep. pneumoniae is main point of differentiation vs. beta-lactam, macrolide and quinolone antibiotics.
- Tolerability equivalent to Zithromax.

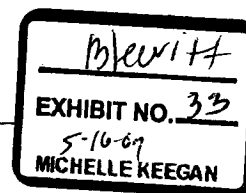
- Appendix 1

Key Emerging Competitors

Generic	Brand	Company	Class	Status
moxifloxacin	Avelox	Bayer	Quinolone	Approved by FDA 12/13/00
gatifloxacin	Tequin	BMS	Quinolone	Approved by FDA 12/21/00
gemifloxacin	Factive	SKB	Quinolone	Filed NDA 12/15
T-3811	TBD	BMS/Toyama	Quinolone	Phase I
telithromycin	Ketek	Aventis	Ketolide	Filed NDA 3/00
linezolid	Zyvox	Pharmacia	Oxazolidinone	Approved by FDA Q2 '00

Blewitt 5/16/2007 Deposition Exhibit 33

D's Exhibit 554



From: Lynn C. Klotz [LynnKlotz@compuserve.com]
Sent: Tuesday, July 04, 2000 12:30 PM
To: Blewitt, Stephen
Subject: ketolide research summary

Steve,

Here is the summary research on ketolide antibiotics. This might be the most promising of Abbott's single drugs in the package. It may even achieve the greater than \$1 billion market share they project, since Adventis publically projects \$1 billion for its ketolide, Ketek, just on the market. Abbott's is not far behind and may have superior properties.

I will complete the summary research writeups on the trip, and send them to you when I return shortly after July 10.

As far as a final report, I will make sure you have all the information verbally first. I am planning one page for each basket item which will summarize the most salient facts. The interviews and slightly polished research summaries will be in Appendices.

-Lynn

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Abbott's Ketolide Antibiotic (ABT-773)

file: abbott-ketolide

Potential interviewee's for ABT-773

Stuart Levy (Professor Microbiology Tuft's University School of Medicine, Tel: 617-636-6764, e-mail: stuart.levy@tufts.edu) is a leading authority on antibiotic resistance. If he views ketolides as particularly promising we may not need to interview anyone else.

Malathum K, Coque TM, Singh KV, Murray BE

(Good interview candidates)

Center for the Study of Emerging and Re-Emerging Pathogens, University of Texas Medical School, Houston 77030, USA.

Schulin T, Wennersten CB, Moellering RC Jr, Eliopoulos GM

Department of Medicine, Beth Israel Deaconess Medical Center, and Harvard Medical School, Boston, MA 02115, USA.

(Excellent interview candidates, because of local connection. Does Andy Onderdonk know these researchers)

Strigl S, Roblin PM, Reznik T, Hammerschlag MR

Division of Infectious Diseases, Department of Pediatrics, State University of New York Health Science Center at Brooklyn, Brooklyn, New York 11203-2098, USA.

(Possible interview candidates)

Questions for antibiotic resistance experts on ketolide antibiotics

What new classes of antibiotics show promise against resistant gram-positives?

Of the following new classes, which are the most promising: Quinolones, polyketides, macrolides, ketolides, others? Why?

On average, what percentage of gram-positive infections are resistant to antibiotics? How fast is resistance growing?

Which of the large drug companies do you see as leaders in the development of new antibiotics?

The antibiotic market is highly fragmented. In business terms, there are many antibiotics each with small market share. What would be the properties of a new antibiotic that would make it widely used? Of the development stage antibiotics, do you see one or more that should find wide usage, and thus large market share?

Are there any other approaches to protection against infections that will significantly compete

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JH 003028

with antibiotics? Vaccines? Vaccines in edible plants? Others?

Are there any other approaches to antibiotic resistance, besides new antibiotics, that seem promising?

Is there a key question that I did not ask? What is it, and how would you answer it?

Questions for Abbott on ABT-773 and competition

HMR 3647 is a Hoechst Marion Roussel antibiotic. It appears in more than one recent paper as especially promising. In view of the fact that Aventis is the name of the Hoechst/Rhone-Poulenc merger, is Ketek just the new name for HMR 3647?

Is ABT-773 also more effective against strains susceptible to other antibiotics?

What other new classes of antibiotics show promise against resistant gram-positives?

On average, what percentage of gram-positive infections are resistant to antibiotics? How fast is resistance growing?

In one literature report of a comparative test between Hoechst's ketolide (HMR 3647) and ABT-773, ABT-773 was found to be more active. Are there other ketolides for which you have comparisons?

How did you arrive at future sales of over \$1.3 billion?

Example articles

2: Antimicrob Agents Chemother 2000 Jun;44(6):1562-7

Studies of the novel ketolide ABT-773: transport, binding to ribosomes, and inhibition of protein synthesis in streptococcus pneumoniae.

Capobianco JO, Cao Z, Shortridge VD, Ma Z, Flamm RK, Zhong P
Infectious Disease Research, Abbott Laboratories, Abbott Park, Illinois 60064,
USA.

[Medline record in process]

Macrolide resistance in Streptococcus pneumoniae has been associated with two main mechanisms: target modification by Erm methyltransferases and efflux by macrolide pumps. The ketolide ABT-773, which has a 3-keto group and no L-cladinose sugar, represents a new class of drugs with in vitro activity against a variety of resistant bacteria. Several approaches were undertaken to understand how ABT-773 was able to defeat resistance mechanisms. We demonstrated tighter ribosome binding of ABT-773 than erythromycin. We also showed that ABT-773 (i) accumulated in macrolide-sensitive S. pneumoniae at a higher rate than erythromycin, (ii) was able to bind with methylated ribosomes, though at lower affinities than with wild-type ribosomes, and (iii) accumulated in S. pneumoniae strains with the

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efflux-resistant phenotype. (*Abbott has done research on the resistance mechanism.*)

PMID: 10817709, UI: 20277881

3: Antimicrob Agents Chemother 2000 Apr;44(4):1112-3

In vitro activity of ABT 773, a new ketolide antibiotic, against *Chlamydia pneumoniae*.

Strigl S, Roblin PM, Reznik T, Hammerschlag MR

Division of Infectious Diseases, Department of Pediatrics, State University of

New York Health Science Center at Brooklyn, Brooklyn, New York 11203-2098, USA.

(Possible interview candidates)

The in vitro activities of ABT 773, telithromycin (HMR 3647), azithromycin, clarithromycin, erythromycin, and levofloxacin were tested against 20 strains of *Chlamydia pneumoniae*. (*Good, this is a comparative test between Hoechst's ketolide and Abbotts*) The MIC at which 90% of the isolates were inhibited and the minimal bactericidal concentration at which 90% of the isolates were killed by ABT 773 were 0.015 microg/ml (range, 0.008 to 0.015 microg/ml). ABT 773 was the most active antibiotic tested in this study. (*This is in vitro, what about comparative animal studies?*)

PMID: 10722526, UI: 20187185

4: Antimicrob Agents Chemother 2000 Feb;44(2):447-9

In vitro activity of ABT-773, a new ketolide, against recent clinical isolates of *Streptococcus pneumoniae*, *Haemophilus influenzae*, and *Moraxella catarrhalis*.

Brueggemann AB, Doern GV, Huynh HK, Wingert EM, Rhomberg PR

Medical Microbiology Division, Department of Pathology, University of Iowa

College of Medicine, Iowa City, Iowa 52242, USA.

(Also a possible interview candidate)

The in vitro activity of ABT-773 was evaluated against *Streptococcus pneumoniae*, *Haemophilus influenzae*, and *Moraxella catarrhalis* isolates. ABT-773 was the most active antimicrobial tested against *S. pneumoniae*. ABT-773 and azithromycin were equivalent in activity against *H. influenzae* and *M. catarrhalis* and more active than either clarithromycin or erythromycin. (*Again, good in vitro results for Abbott*)

PMID: 10639382, UI: 20107001

02831133 (THIS IS THE FULLTEXT)

Respiratory Tract Infections: Ketolides Comprise New Family of Antibiotics (Aventis' antibiotic Telithromycin shows in vitro activity against pathogens that lead to community-acquired respiratory tract infections; according to PROTEKT study) TB & Outbreaks Week, p N/A June 13, 2000

DOCUMENT TYPE: Newsletter (United States)

LANGUAGE: English RECORD TYPE: Fulltext

WORD COUNT: 641

ABSTRACT:

Preliminary data reported from PROTEKT (Prospective Resistant Organism Tracking for the Ketolide Telithromycin), a global study involving 66 laboratories, has found that telithromycin

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has demonstrated in vitro activity against pathogens that lead to community-acquired respiratory tract infections (RTIs) (*This study involves only the Aventis antibiotic, and is sponsored by Aventis*) Telithromycin is part of new family of antibiotics known as ketolides, being explored as RTIs grow increasingly resistant to commonly used antibiotics. Globally, RTIs kill more than 50 mil people yearly. PROTEKT is sponsored by Aventis Pharma. Ketek (telithromycin) was submitted by Aventis Pharmaceuticals to the US Food and Drug Administration (FDA) and the European Agency for the Evaluation of Medicinal Products for marketing approval earlier in 2000. Full text further discusses the PROTEKT study.

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Blewitt 5/16/2007 Deposition Exhibit 36

D's Exhibit D_GG

Aventis - 11 May 2000

Blewitt

EXHIBIT NO. 36

5-16-89

MICHELLE KEEGAN

Ketek

- First-in-class antibiotic — launched into a crowded market
- Key competitors: *Augmentin*, *Zithromax* and new quinolones
- Advantageous five day dosing schedule (like *Zithromax* and *Avelox*)
- How fast can it grow?

Introduction

Ketek is a first-in-class antibiotic for the treatment of respiratory tract infections (RTIs). It will be the key launch for Aventis in 2001. The company has ambitious sales targets for *Ketek* and quantifies the sales potential at over €750 million per annum. While such a peak sales figure is possible, it might take time to get there. Doctors seem conservative in their prescription behavior regarding antibiotic therapies — as the older products seem to do the job in most cases. Among the current top 10 selling antibiotics, *Zithromax*, launched eight years ago, is the latest launch. It took Pfizer eight years to reach a sales level surpassing US\$1 billion.

Figure 21. Top 10 Worldwide Antibiotics

Name	Generic Name	Product Type	Company	US Launch	1998 Sales (US\$m)
<i>Augmentin</i>	Amoxicillin + clavulanate	beta lactamase inhibitor	SmithKline Beecham	1984	1,564
<i>Cipro</i>	Ciprofloxacin	quinolone	Bayer	1987	1,367
<i>Biaxin</i>	Clarithromycin	macrolide	Abbott	1991	1,250
<i>Rocephin</i>	Ceftriazone	cephalosporin	Roche	1985	1,112
<i>Zithromax</i>	Azithromycin	macrolide	Pfizer	1992	1,041
<i>Certin/Zenit</i>	Cefuroxime	cephalosporin	Glaxo Wellcome	1988	674
<i>Primaxin</i>	Imipenem + cilastatin	carbapenem	Merck	1985	525
<i>Cefclor</i>	Cefaclor	cephalosporin	Lilly	1979	399
<i>Fortaz/Foran</i>	Ceftazidime	cephalosporin	Glaxo Wellcome	1985	389
<i>Amoxil</i>	Amoxicillin	Penicillin	SmithKline Beecham	1974	334

Sources: Company reports and Schroder Salomon Smith Barney estimates.

Ketek profile

Ketek is a member of a novel group of ketolide antibiotics within the macrolide-lincosamide-streptogramin group of antimicrobials. *Ketek* has strong activity against Gram-positive and Gram-negative bacteria to help fight infection.

Ketolides have a similar mechanism of action to other macrolides such as Pfizer's *Zithromax* (broad spectrum antibiotics particularly effective against Gram-positive bacterial infections). Unlike macrolide antibiotics, ketolides are active against *streptococcus pneumonia* and *hemophilus influenzae*.

Ketek was submitted to the FDA in February 2000 and to the EMEA in March 2000. Launch is forecast for 2001. European phase III double blind trials indicated *Ketek* and *Augmentin* had comparable cure rates for patients suffering from community-acquired pneumonia.

Ketek has a good safety profile, potential for a paediatric formulation and is dosed once daily.

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SCHRODER SALOMON SMITH BARNEY

Aventis - 11 May 2000

Five-day dosing

A key advantage of *Ketek* over many existing antibiotics is its five-day dosing regime. This is not only more convenient than the more conventional seven to 10 day therapies, but an important factor to avoid resistance.

Resistance to antibiotics is a key concern of antibiotic therapy, as the resulting mutant 'superbugs' can be difficult to treat and thus be fatal. The more time a certain bacterium has to mutate (while being exposed to antibiotic therapy) the higher the probability of a mutation. Thus, the faster the bugs are eradicated the lower the probability of mutant 'superbugs'.

Ketek is not the only antibiotic with an advantageous dosing regime. Among the existing players, Pfizer's *Zithromax* and Bayer's newly launched *Avelox* have also a five-day dosing regime.

*Resistance to antibiotics
is a growing problem*

Background

Bacterial infections kill 17 million people each year worldwide — many of these being contracted in hospital. Resistance is a growing problem, due to widespread misuse. Worldwide, people consume 235 million doses of antibiotics annually. It is estimated that 20%-50% of that use is unnecessary. The rate of antibiotic usage varies widely between markets, with the Japanese receiving up to three times as many antibiotic prescriptions per capita as North Americans or Europeans.

*Market growth through
product substitution*

Market developments

The antibiotics market was worth US\$21 billion in 1998 and grew 3%. Market growth is being driven by product substitution: older, cheaper compounds such as penicillin, amoxicillin and first- and second-generation cephalosporins are being gradually replaced by modern, more potent and more expensive compounds. Despite the launches of many modern antibiotics, most classes of drugs have been in use for more than 40 years, with no new classes of antibiotic being launched since the quinolones first reached the market in 1962.

*Cephalosporins remain
top-selling class
of antibiotics*

The type of antibiotic prescribed is based on several factors: diagnosis, resistance, variation in patient response, and out- versus in-patient status. Currently, cephalosporins (an older type of antibiotic, similar in structure to the penicillins) are the largest class of antibiotics, accounting for 31% of the market. The second-largest class is the beta-lactamase inhibitors (of which SmithKline Beecham's *Augmentin* is the top-selling product), with an 18% share of the market. The macrolides, a class with a broader spectrum of activity, account for a 13% share of the market. An example is Pfizer's *Zithromax*.

*Recently launched
quinolones have
faced setbacks*

The quinolones are one of the newest classes of antibiotics (of which Bayer's *Cipro* is the largest seller), and account for 11% of the market. However, the class has suffered a recent setback with the withdrawal in November 1999 of Glaxo Wellcome's recently launched *Raxar* (due to severe cardiovascular side-effects in some patients) and the Black Box warning added to Pfizer's *Trovan* label in the US and its withdrawal in Europe (due to liver toxicity).

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*Two classes
of infections:
Gram-positive and
Gram-negative*

Bacterial infections can be divided into two classes: Gram-positive and Gram-negative. This classification is based on whether or not the organisms stain with Gram's stain — but also refers to the different structures of the cell walls — which has implications for the action of antibiotics. Gram-positive bacteria have relatively simple cell walls, whereas Gram-negative bacteria have a more complex structure, which is why some antibiotics (including the macrolides and penicillin G) are less active against Gram-negative bacteria.

New antibiotics

*Quinolones dominate
the antibiotic pipeline*

The launches of new quinolones has dominated the antibiotics market over the past couple of years — and this looks set to continue throughout 2000. Bayer's new quinolone *Avelox* (moxifloxacin) was approved in the US in December 1999. However, its success could be limited by the inclusion of a bolded warning on its label concerning the risk of prolongation of the QTc interval. Warner-Lambert discontinued development of its phase III *clinafloxacin* in 1999, also due to QTc prolongation (and phototoxicity).

*US launches for Bayer's
Avelox and Bristol-Myers
Squibb's Tequin in 2000*

Avelox will face competition from Bristol-Myers Squibb's *Tequin* (gatifloxacin). *Tequin* was also approved in December 1999 by the FDA in both oral and IV formulations for seven indications (including respiratory infections, urinary tract infections and gonorrhea). It does not appear to have the side-effects that have dogged other products in this class.

SmithKline Beecham also has a new quinolone close to market — *Factive* (gemifloxacin) was filed in the US in December 1999 and a launch is planned for 2001. Its side-effect profile is not known at present.

Other new antibiotics such as Pharmacia's *Zyvox* and Aventis' *Synercid* are targeted at severe infections and therefore are not expected to compete with *Ketek*

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Figure 22. Products in Development for Bacterial Infection

Brand Name	Generic Name	Product Type	Company	Current Phase	Est US Launch	Comment
<i>Avelox</i>	moxifloxacin	quinolone	Bayer	launched	1000	-
<i>Tequin</i>	gatifloxacin	quinolone	Bristol-Myers Squibb	launched	1000	-
<i>Zyvox</i>	linezolid	oxazolidinone	Pharmacia & Upjohn	filed	2000	Japan only
<i>Quisnon</i>	prulifloxacin	quinolone	Nippon Shinyaku	filed	-	-
<i>Factive</i>	gemifloxacin	quinolone	SmithKline Beecham	filed	1001	filed Dec 99
<i>Kelex</i>	telithromycin	ketolide	Aventis	phase III	2001	-
-	cefditoren	cephalosporin	TAP	phase III	2001	-
-	MK-826	carbapenem	Merck	phase III	2001	-
<i>Ziracin</i>	evernimicin	evernomycin	Schering-Plough	phase II	2001	-
<i>Penemac</i>	ritipenem	carbapenem	Pharmacia & Upjohn	phase III	-	Japan only
-	pazufloxacin	quinolone	Yoshitomi	phase III	-	-
-	LY 333,328	semisynthetic glycopeptide	Lilly	phase IV/III	2002	-
-	ABT-773	ketolide	Abbott	phase II	2002	-
-	CS 940	quinolone	Sankyo	phase II	-	-
-	sitafloracin	quinolone	Daiichi	phase II	-	-
-	S 4661	carbapenem	Shionogi	phase II	-	-
-	CS 834	carbapenem	Sankyo	phase VII	-	-
-	S 1090	cephalosporin	Shionogi	-	-	-
-	faropenem	oral penem	Bayer	phase I	2004	-
-	BMS 284756	quinolone	Bristol-Myers Squibb	phase I	-	-
-	E 1010	carbapenem (IV)	Eisai	phase I	-	-

Sources: Company reports and Schroder Salomon Smith Barney estimates.

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Infectious Disease

The most successful and most abundant organisms on earth are the microbes. There are billions of these microscopic organisms and most are too small to see with the naked eye. They live inside and around other living beings, including humans, in every kind of environment. Importantly, only a minority of these microbes actually cause serious diseases. Many have no effect on humans, and some are life-sustaining, such as those that help us use and absorb vitamins or fight microbes that produce infection and disease. There are three major groups of microbes: viruses, bacteria and protozoa. Within each group are numerous species that differ in shape, size and structure.

Antibiotics

Antibiotics are powerful medications designed to kill bacteria that cause common bacterial illnesses such as ear infections (otitis media) and strep throat. Importantly, antibiotics are only useful in defending the body against bacterial infections. They are not effective in treating viral infections such as influenza. Bacteria are the oldest and most abundant life forms on Earth. They live almost everywhere: in the soil and water, in plants and animals. Only a very few of the thousands of species of bacteria can cause an infectious disease in humans.

Exhibit 47: Anti-Infectives

Disease	Drug classes	1999 Size (growth)
Various Infections	Cephalosporins	\$2.2 billion (down 1%) 49.7 million TRXs (down 2%)
	Macrolides	\$1.8 billion (up 19%) 46.2 million TRXs (up 23%)
	Penicillins	\$0.61 billion (flat) 13.7 million TRXs (down 5%)
	Quinolones	\$1.9 billion (up 23%) 23.8 million TRXs (up 16%)

Source: IMS America, Ltd.

Note: 1999 dollar sales based on rolling 12 months ending November

Basic Science—Antibiotics

Antibiotics kill bacteria without harming the body's own tissues due to certain features of bacterial cells that are not present in human cells, which allow the antibiotic to focus on attacking the bacteria. Unlike human cells, bacterial cells have cell walls, a different mechanism to make proteins and other unique metabolic pathways. Consequently, antibiotics are designed to exploit these differences.

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Year 2000 Therapeutic Outlook March 2000

Infectious Disease

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Antibiotics can kill/suppress bacteria using one of two mechanisms. They can disrupt the bacterium cell wall, which essentially causes the bacteria to explode, or they can act on the reproductive machinery of the bacterium. Penicillins and cephalosporins work by disrupting the cell wall of bacteria, and since human cells do not have cell walls, it explains why these types of drugs are generally well tolerated. Macrolides and quinolones are two types of antibiotics that work on the reproductive machinery of bacteria.

Exhibit 48: Major Classes of Bacteria

Type	Type of Infection
Gram Positives	Staph infections (e.g., wounds and surgical sites), strep (e.g., strep throat and pneumonia). If left untreated, may cause rheumatic fever.
Gram Negatives	Bacteria that inhabit the digestive tract. Responsible for many urinary tract infections, gonorrhea, meningitis and most hospital-acquired infections.
Anaerobes	These bacteria produce toxins that are responsible for botulism and tetanus. They colonize the mouth, gastrointestinal tract and skin.

Source: PaineWebber data.

Misuse and Resistance

Antibiotic resistance is the process by which bacteria that were once susceptible to certain antibiotics no longer are. When antibiotics are used to kill bacteria, cells that are highly susceptible to the medication will die. However, some bacteria within this population will have some resistance to the medicine, either from the start of therapy or through a genetic mutation. This population of bacteria is slightly resistant and may survive and reproduce (especially if too little antibiotic is taken).

The use of antibiotics has risen dramatically since the first commercial versions were introduced. This is clearly displayed by examining how U.S. production of antibiotics has increased in the past 50 years. In 1954, 2 million pounds of antibiotics were produced; last year, the U.S. produced over 50 million pounds. Approximately one-third to one-half of all antibiotic prescriptions are prescribed inappropriately. Many doctors report being pressured by worried parents or patients to prescribe antibiotics. When antibiotics are given unnecessarily for infections that they cannot help or cure (for example, viral illnesses like colds or the flu), this helps to create resistant strains.

The solution to this problem is threefold: 1) explain to patients why an antibiotic is inappropriate and why they need to finish prescriptions in their entirety, 2) use laboratory tests to define whether the infection is bacterial, and 3) continue developing stronger and stronger antibiotics to try to stay ahead in the antibiotic resistance race. All of these solutions are being pursued.

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Cephalosporins

Cephalosporins are similar to penicillins in their mechanism of action, in that they kill bacteria by preventing synthesis or repair of the bacterial cell wall. Since cephalosporins act on the bacterial cell walls, they tend to have minimal side effects. During the 1970s and 1980s, the cephalosporins were one of the most rapidly growing drug classes. However, since that time, many bacterial strains have become resistant to cephalosporins. Much like the penicillins, the first generation of cephalosporins were most effective against gram-positive bacteria. Second- and third-generation compounds displayed increased efficacy against gram-negative bacteria, but the chemical modifications reduced their effectiveness against gram-positives. For the last rolling 12 months, ended November 1999, IMS America estimates that the cephalosporin market's sales were \$2.2 billion in the U.S. (down 1% year over year) and the prescription growth (1999 calendar year) was down 2%.

Recent Product Trends

In terms of total prescription market share, the cephalosporin market is dominated by generics; Teva's generic had approximately 25% of TRX market share in November 1999.

Outlook/Forecast

With the many different classes of antibiotics competing for patients and with more patients becoming resistant, the more potent classes of drugs (macrolides and quinolones) are likely to continue to gain market share and to experience growth. Consequently, we believe the cephalosporins are likely to continue to display modest declines in growth.

Investment Significance

COMPANY (RATING)	PRODUCT	SIGNIFICANCE
GlaxoWellcome (Neutral)	Ceftin, Fortaz	These products are not important factors in our GLX valuation. This franchise currently represents approximately £630 million, or 7% of Glaxo's revenue, in 2000. However, since both products are facing patent expirations, we forecast revenue to decline to £428 million, or 3% of revenue, in 2004.

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Key Product Profiles

BRAND NAME	GENERIC NAME	MNFR. (RATING)	DOSING/ ADMIN	ADVANTAGES	DISADVANTAGES	MNF RED BOOK PRICE
Ceclor line	cefaclor	Eli Lilly/Dura (Attractive) (NR)	10 days BID/TID caps, solution	+ moderately active against <i>H. influenzae</i>	- not active against <i>Pseudomonas</i> - second generation - generic competition	375-500mg/day \$3.26-4.00/day
Ceftin/Zinnat	cefuroxime	GlaxoWellcome (Neutral)	10 days BID caps, liquid	+ active against <i>H. influenzae</i> + broader range of activity than cefalexin and cefaclor + penetrates CSF + pediatric indication	- second generation	125-500mg/day \$2.09-7.43/day
Cefzil	cefprozil	Bristol-Myers Squibb (Buy)	10 days QD/BID caps, IV	+ active against <i>H. influenzae</i> + penetrates CSF + pediatric indication	- second generation - generic competition	250-500mg/day \$3.30-6.63/day
Duricef/Ultracel	cefdroxil	Bristol-Myers Squibb (Buy)	10 days QD/BID caps, solution	+ long half-life + penetrates bone	- first generation - generic competition	500mg/day \$4.60/day
Fortaz/Fortum	ceftadizime	GlaxoWellcome (Neutral)	injection	+ third generation + more active against <i>Pseudomonas</i> + penetrates CSF	- no oral version - shorter half-life than other third-generation compounds	N/A
Mefoxin	cefotixin	Merck (Attractive)	injection	+ penetrates CSF	- no oral version	N/A
Omnicef	cefdinir	Abbott (Neutral)	5 days QD caps, solution	+ once-daily dosing + more active against gram negative bacteria + pediatric indication + third generation + five-day dosing cycle	-	300mg/day \$3.53/day
Rocephin	ceftriaxone	Roche (NR)	IV, injection	+ third generation + once-daily dosing + long half-life	- no oral version - less active against <i>Pseudomonas</i>	N/A
Vanlin	cefepodoxime	Pharmacia & Upjohn (Neutral)	5 days BID caps	+ five-day dosing cycle + more active against <i>Staph. Aureus</i> + pediatric indication	- no oral version	100-200mg/day \$3.21-4.24/day

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Year 2000 Therapeutic Outlook March 2000

Macrolides

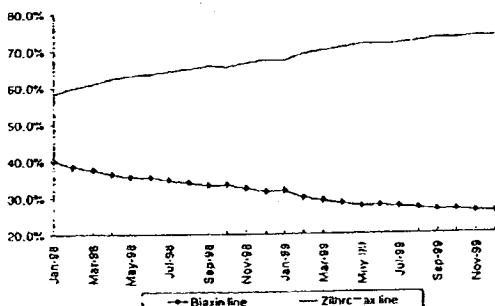
Macrolides are compounds that suppress bacterial reproduction by inhibiting protein synthesis. The first macrolide became available in 1952, when erythromycin was launched in the United States. Erythromycin remained the only macrolide available in the U.S. until Abbott launched Biaxin in November 1991, although approximately ten other macrolides had been available outside the United States. In 1992, Pfizer launched its macrolide, Zithromax. For the last rolling 12 months, ended November 1999, IMS America estimates that the macrolide market's sales were \$1.8 billion in the U.S. (up 19% year over year) and the total prescription growth (1999 calendar year) was up 23%.

Recent Product Trends

The macrolide market is dominated by two products, Abbott's Biaxin and Pfizer's Zithromax. Zithromax has long been the market leader and continues to capture new prescription market share (73.4% in December 1999). We expect Zithromax to maintain this high level of market share.

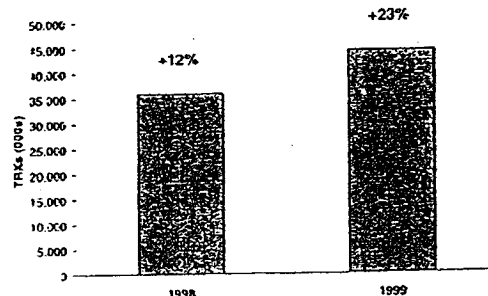
Prescription Trends

Exhibit 49: Macrolide Market
New prescription market share



Source: IMS America, Ltd.

Exhibit 50: Macrolide Market
Total prescriptions



Outlook/Forecast

With the many different classes of antibiotics competing for patients and with more patients becoming resistant, the more potent classes of drugs (macrolides and quinolones) are likely to continue to experience growth. However, with the introductions of new classes of antibiotics, such as Pharmacia's Zynox or Aventis's ketolide, we may see new market share gradually decline.

For historical prescription data, please see the monthly *Company & Therapeutic Prescription Statistical Update* report.

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Investment Significance

COMPANY (RATING)	PRODUCT	SIGNIFICANCE
Abbott (Neutral)	Biaxin	Total pharmaceuticals account for approximately 30% of Abbott's estimated 1998 revenues. Biaxin sales add to the earnings story for Abbott, but Biaxin is not a critical driver of our current valuation. (See the January 20, 2000, report, "Not Time Yet" by PaineWebber hospital supply analyst David Lothson.)
Pfizer (Attractive)	Zithromax	Zithromax is a key factor of our PFE valuation. We forecast Zithromax's sales to reach \$1.6 billion in 2000 (10% of corporate sales) and \$2.2 billion by 2002 (11% of corporate sales).

Key Product Profiles

BRAND NAME	GENERIC NAME	MNFR. (RATING)	DOSING/ ADMIN	ADVANTAGES	DISADVANTAGES	MNF RED BOOK PRICE
Biaxin	clarithromycin	Abbott (Neutral)	5 days BID caps, granules	+ drug of choice with strep throat, upper respiratory infections due to susceptible bacteria, staph and skin infections + conducting trials in H. pylori infections	- side effects include GI upset and headache	500mg/day \$3.26/day
Zithromax	azithromycin	Pfizer (Attractive)	5 days QD caps, liquid	+ ease of dosing + drug of choice for the same indications as Biaxin in addition to Chlamydia infections + conducting trials in H. pylori infections	- side effects include GI upset and abdominal pain	250mg/day \$6.55/day

Quinolones

Quinolones kill bacteria by inhibiting DNA replication. Quinolones have been the most exciting addition to the antibiotic armamentarium in recent years. In 1963, nalidixic acid was the first quinolone introduced in the U.S.; however, poor serum levels and the rapid development of bacterial resistance limited its use. Importantly, the addition of a fluorine group (flouroquinolones) has greatly improved the efficacy and spectrum of this class of antibiotics (other chemical modifications have also increased the efficacy, such as a piperazine group). In the following table, we roughly outline the classification of this class of drugs. For the last rolling 12 months, ended November 1999, IMS America estimates that the quinolone market's sales were \$1.9 billion in the U.S. (up 23% year over year) and the prescription growth (1999 calendar year) was up 16%.

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Exhibit 51: The Four Generations of Quinolones

First Generation	Third Generation
Nalidixic acid	Zagam (sparfloxacin)
Oxolonic acid	Tosufloxacin
Cinoxacin	Tequin (gatifloxacin)
Piromedic acid	Pazufloxacin
Pipemedic acid	Raxar (grepafloxacin)
Flumequine	
Second Generation	Fourth Generation
Noroxin (norfloxacin)	Trovan (trovafloxacin)
Cipro (ciprofloxacin)	Clinafloxacin
Penetrex (enoxacin)	Avelox (moxifloxacin)
Fleroxacin	Factive (gemifloxacin)
Maxaquin (lomefloxacin)	
Floxin (ofloxacin)	
Levaquin (levofloxacin)	
Rufloxacin	

Source: ADIS International.

Recent Product Trends

On May 26, 1999, the European Commission decided to limit the use of Pfizer's Trovan to hospital-based use only, in light of some adverse liver events that occurred in patients who took Trovan. Following the European decision, in June 1999, Pfizer announced that the FDA would also limit the use of Trovan to treat only certain serious infections and primarily hospital-based use. According to Pfizer, hospital-based use is approximately one-third of the current usage.

Additionally, on October 27, 1999, GlaxoWellcome voluntarily withdrew Raxar from more than 30 countries where it had been sold, warning that the risk of rare side effects outweighs potential benefits. A recent analysis of data highlighted the fact that seven patients died of heart-related events while taking Raxar and three other patients developed torsade de pointes (irregular heartbeat).

Lastly, during the fourth quarter, Warner-Lambert decided to pull its NDA with the FDA for clinafloxacin. The FDA had some liver toxicity concerns and requested that Warner perform some additional tests. Warner opted not to invest any more into clinafloxacin due to the limited potential upside (clinafloxacin would be for hospital-based use only).

Three products currently combine for 98.4% of NRX share: Johnson & Johnson's Levaquin and Floxin and Bayer's Cipro. Floxin continues to lose market share, and it appears that the main beneficiaries of Raxar's and Trovan's demise are Cipro and Levaquin. We will be watching this market closely with the two new entrants from Bristol and Bayer.

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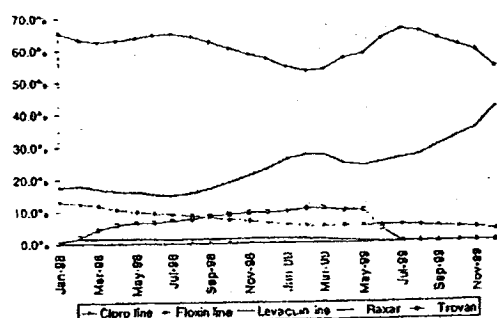
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Year 2000 Therapeutic Outlook March 2000

Prescription Trends

Exhibit 52: Quinolone Market

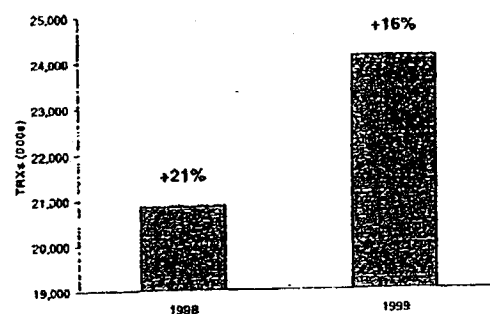
New prescription market share



Source: IMS America, Ltd.

Exhibit 53: Quinolone Market

Total prescriptions



Pipeline

On December 13, 1999, Bayer's Avelox (moxifloxacin) was approved by the FDA for the treatment of acute bacterial sinusitis, acute bacterial exacerbation of bronchitis and community-acquired pneumonia. Bristol-Myers's Tequin (gatifloxacin) was approved on December 21, 1999, by the FDA for seven indications, including chronic bronchitis, sinusitis, community-acquired pneumonia, uncomplicated/complicated urinary tract infections, pyelonephritis and gonorrhea. Importantly, on both the Avelox and the Tequin labels, there are boldface warnings regarding Avelox's potential to prolong the QT interval in some patients. The product insert states that the drug should be avoided in patients with known prolongation of the QT interval.

Finally, SmithKline Beecham's Factive (gemifloxacin) was submitted to the FDA on December 15, 1999, and appears to have a much higher level of potency than any of the other currently marketed quinolones.

Outlook/Forecast

With the many different classes of antibiotics competing for patients and with more patients becoming resistant, the more potent classes of drugs (macrolides and quinolones) are likely to continue to experience growth. However, with the introductions of new classes of antibiotics, such as Pharmacia's Zyvox or Aventis's ketolide, we may see new market share gradually decline.

For historical prescription data, please see the monthly *Company & Therapeutic Prescription Statistical Update* report.

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Investment Significance

COMPANY (RATING)	PRODUCT	SIGNIFICANCE
Bristol-Myers Squibb (Buy)	Tequin	Tequin is not a critical factor in our BMY valuation. Tequin launched during December 1999; we expect worldwide revenue of \$125 million for 2000 (less than 1% of total revenue) and \$350 million by 2004 (1% of total revenue).
Johnson & Johnson (Neutral)	Floxin and Levaquin	Pharmaceuticals now account for an estimated 39% of JNJ's sales. However, while Floxin and Levaquin add to JNJ's earnings, they are not a critical driver of our current valuation. (See "Propulsid Sell-Off a Short-Term Opportunity," January 27, 2000, by PaineWebber medical supply analyst David Lothson.)
Pfizer (Attractive)	Trovan	Trovan is no longer a factor in our PFE valuation. Due to Trovan's solely hospital-based use, we have no revenue built into our model.

Key Product Profiles

BRAND NAME	GENERIC NAME	MNFR. (RATING)	DOSING/ ADMIN	ADVANTAGES	DISADVANTAGES	MNF RED BOOK PRICE
Avelox	moxifloxacin	Bayer (NR)	QD caps	+ has better activity than currently available fluoroquinolones against less common gram negative bacteria + effective against all community acquired respiratory pathogens + effective against bacteria that are resistant to beta-lactams and macrolides	- carries boldface warning of possible QT prolongation - Adverse side effects include GI and CNS effects.	400mg/day \$8.71/day
Cipro	ciprofloxacin	Bayer (NR)	BID caps, IV	+ well established + unique indications for bone and joint infections and for infectious diarrhea	- carries boldface warning of serious and fatal reactions in concomitant use with theophylline (a bronchodilator) - Adverse side-effects include: growth plate arrest, GI and CNS effects, hypersensitivity reactions, photosensitivity - requires dosing adjustments for renal insufficiency	300-1000mg/day \$7.95-8.31/day
Floxin	ofloxacin	Johnson & Johnson (Neutral)	BID caps, IV		- arrests growth plate, GI & CNS effects, hypersensitivity reactions, photosensitivity/skin tumors	400-800mg/day \$4.95-9.90/day
Levaquin	levofloxacin	Johnson & Johnson (Neutral)	QD caps, IV	+ first anti-infective indicated to treat all the key respiratory pathogens, skin & kidney infections, complicated urinary tract infections	- requires dosing adjustments for renal insufficiency	250-500mg/day \$7.31-8.53/day

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BRAND NAME	GENERIC NAME	MNFR. (RATING)	DOSING/ ADMIN	ADVANTAGES	DISADVANTAGES	MNF RED BOOK PRICE
Tequin	gatifloxacin	Bristol-Myers Squibb (Buy)	QD caps, IV	+ very broad label with seven indications	- carries boldface warning of possible QT prolongation	200-400mg/day \$7.03/day
Trovan	trovafloxacin	Pfizer (Attractive)	QD caps, IV	+ treatment of 14 types of respiratory infections + very broad-spectrum quinolone, efficacy spans all four major types of bacterial infections + does not have side effects common to other quinolones	- transient dizziness in 6.6% of patients - requires seven to 14 days of therapy - hospital-based use only due to potential liver abnormalities	100-200mg/day \$5.94-7.19/day

Novel Antibiotics

During 2000, the pharmaceutical industry will introduce the first new type of antibiotic since the 1980s. Pharmacia & Upjohn filed an NDA for Zyvox (linezolid), the first member of the oxazolidinone class of antibiotics. Pharmacia is seeking indications for Zyvox in skin and soft tissue infections, nosocomial (e.g., hospital-acquired) and community-acquired pneumonia, and vancomycin-resistant enterococcal infections, including cases with associated blood stream infections. Zyvox will likely be available in intravenous, oral solution and tablets. The FDA has granted Zyvox an expedited, six-month, review.

Zyvox appears to be a viable option for patients with infections caused by multidrug-resistant gram-positive bacteria. At the 1999 Interscience Conference on Antimicrobial Agents and Chemotherapy (ICAAC) meeting, results from several Phase III trials coupled with Phase II data suggested that Zyvox is effective for the treatment of infections caused by gram-positive bacteria in both adults and children. In a Phase III clinical trial involving 397 patients with hospital-acquired pneumonia (HAP), intravenous Zyvox plus Bristol's Azactam showed a 66.4% clinical success rate, which was equivalent to Lilly's intravenous Vancocin plus Bristol's Azactam success rate of 68.1%. A Phase III trial for complicated skin and soft tissue infections involving 591 patients found intravenous to oral Zyvox to show a clinical success rate of 90.7% versus 86.3% for intravenous oxacillin/oral dicloxacillin. Importantly, in a study of Zyvox for the treatment of infections caused by methicillin-resistant staphylococcal strains (MRSS), Zyvox showed a clinical success rate of 77% compared with intravenous Vancocin, 74.4%. A trial in 145 patients with infections caused by Vancocin-resistant Enterococcus (VRE) compared the efficacy of two dose levels of Zyvox because no other treatment option is approved for this indication. Zyvox 600 mg and Zyvox 200 mg, both given every 12 hours, showed clinical success rates of 88.6% and 73.7%, respectively. The compassionate use trial involves over 560 patients who are gravely ill with serious gram-positive infections caused by VRE or MRSS, and for patients who cannot tolerate other antibiotics. Two cases of resistance were seen in this trial; however, the events were extraordinary in that both patients had had complicated

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clinical courses, were bacteraemic and had long-standing indwelling intravascular devices that could not be removed.

Over the next 18 months, physicians will have another novel agent to combat infections. Aventis will likely file an NDA for HMR-3647, its new ketolide antimicrobial, during 2000. Ketolides are new additions to the macrolide-lincosamide-streptogramin group of antibiotics. Aventis specifically designed this compound for respiratory tract infections. The compound appears to have a very broad spectrum of activity, which extends to drug-resistant S. pneumoniae and H. influenzae. It will likely be available in once-daily oral dosing. The toxicological profile is similar to that of macrolides.

Outlook/Forecast

With the many different classes of antibiotics competing for patients and with more patients becoming resistant, the more potent classes of drugs (macrolides and quinolones) are likely to continue to experience growth. However, with the introductions of new classes of antibiotics, such as Pharmacia's Zyvox or Aventis's ketolide, we may see new market share gradually decline.

For historical prescription data, please see the monthly *Company & Therapeutic Prescription Statistical Update* report.

Investment Significance

COMPANY (RATING)	PRODUCT	SIGNIFICANCE
Pharmacia & Upjohn (Neutral)	Zyvox	Zyvox, over time, will be a significant component of our PNU valuation. Zyvox has significant potential in the treatment of resistant bacterial infections. We expect this product to launch during the summer 2000 and we currently forecast worldwide revenue of \$60 million. By 2004, we expect revenue of \$375 million, or 4% of total revenue.

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Year 2000 Therapeutic Outlook March 2000

BRAND NAME	GENERIC NAME	MNFR. (RATING)	DOSING/ ADMIN	ADVANTAGES	DISADVANTAGES	MNF RED BOOK PRICE
Tequin	gatifloxacin	Bristol-Myers Squibb (Buy)	QD caps, IV	+ very broad label with seven indications	- carries boldface warning of possible QT prolongation	200-400mg/day \$7.03/day
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Year 2000 Therapeutic Outlook March 2000

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Outlook/Forecast

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D's Exhibit 822

file: abbott-ketolide

Potential interviewee's for ABT-773

Stuart Levy (Professor Microbiology Tuft's University School of Medicine, Tel: 617-636-6764, e-mail: stuart.levy@tufts.edu) is a leading authority on antibiotic resistance. If he views ketolides as particularly promising we may not need to interview anyone else.

Malathum K, Coque TM, Singh KV, Murray BE
(Good interview candidates)

Center for the Study of Emerging and Re-Emerging Pathogens, University of Texas Medical School, Houston 77030, USA.

Schulin T, Wennersten CB, Moellering RC Jr, Eliopoulos GM
Department of Medicine, Beth Israel Deaconess Medical Center, and Harvard Medical School, Boston, MA 02115, USA.

(Excellent interview candidates. because of local connection. Does Andy Onderdonk know these researchers)

Strigl S, Roblin PM, Reznik T, Hammerschlag MR
Division of Infectious Diseases, Department of Pediatrics, State University of New York Health Science Center at Brooklyn, Brooklyn, New York 11203-2098, USA.
(Possible interview candidates)

Dr. Robert C. Moellering, Jr. Beth Israel Deaconess Medical Center

Questions for antibiotic resistance experts on ketolide antibiotics

What new classes of antibiotics show promise against resistant gram-positives?

Of the following new classes, which are the most promising: Quinolones, polyketides, macrolides, ketolides, others? Why?

On average, what percentage of gram-positive infections are resistant to antibiotics? How fast is resistance growing?

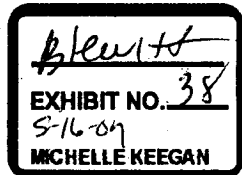
Which of the large drug companies do you see as leaders in the development of new antibiotics?

The antibiotic market is highly fragmented. In business terms, there are many antibiotics each with small market share. What would be the properties of a new antibiotic that would make it widely used? Of the development stage antibiotics, do you see one or more that should find wide usage, and thus large market share?

Are there any other approaches to protection against infections that will significantly compete

are some targeted to "reverse" infections
do include 1. amoxicillin, 2. ketolide, 3. cephalexin

Q.
Novifloxacin
Ketolide
12-15
ONCE



Daptomycin
(Gt)
Oxazolidinones
Ketolide
Glycylcyclines

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with antibiotics? Vaccines? Vaccines in edible plants? Others?

Are there any other approaches to antibiotic resistance, besides new antibiotics, that seem promising? *What effect will vaccines, cold therapies have on market*

Is there a key question that I did not ask? What is it, and how would you answer it?

Questions for Abbott on ABT-773 and competition

HMR 3647 is a Hoechst Marion Roussel antibiotic. It appears in more than one recent paper as especially promising. In view of the fact that Aventis is the name of the Hoechst/Rhone-Poulenc merger, is Ketek just the new name for HMR 3647? *y 65*

Is ABT-773 also more effective against strains susceptible to other antibiotics?

What other new classes of antibiotics show promise against resistant gram-positives?

On average, what percentage of gram-positive infections are resistant to antibiotics? How fast is resistance growing?

In one literature report of a comparative test between Hoechst's ketolide (HMR 3647) and ABT-773, ABT-773 was found to be more active. Are there other ketolides for which you have comparisons?

How did you arrive at future sales of over \$1.3 billion?

Example articles

2: Antimicrob Agents Chemother 2000 Jun;44(6):1562-7

Studies of the novel ketolide ABT-773: transport, binding to ribosomes, and inhibition of protein synthesis in streptococcus pneumoniae.

Capobianco JO, Cao Z, Shortridge VD, Ma Z, Flamm RK, Zhong P

Infectious Disease Research, Abbott Laboratories, Abbott Park, Illinois 60064, USA.

[Medline record in process]

Macrolide resistance in Streptococcus pneumoniae has been associated with two main mechanisms: target modification by Erm methyltransferases and efflux by macrolide pumps. The ketolide ABT-773, which has a 3-keto group and no L-cladinose sugar, represents a new class of drugs with in vitro activity against a variety of resistant bacteria. Several approaches were undertaken to understand how ABT-773 was able to defeat resistance mechanisms. We demonstrated tighter ribosome binding of ABT-773 than erythromycin. We also showed that ABT-773 (i) accumulated in macrolide-sensitive S. pneumoniae at a higher rate than erythromycin, (ii) was able to bind with methylated ribosomes, though at lower affinities than with wild-type ribosomes, and (iii) accumulated in S. pneumoniae strains with the

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efflux-resistant phenotype. (*Abbott has done research on the resistance mechanism.*)
PMID: 10817709, UI: 20277881

3: Antimicrob Agents Chemother 2000 Apr;44(4):1112-3
In vitro activity of ABT 773, a new ketolide antibiotic, against *Chlamydia pneumoniae*.
Strigl S, Roblin PM, Reznik T, Hammerschlag MR
Division of Infectious Diseases, Department of Pediatrics, State University of
New York Health Science Center at Brooklyn, Brooklyn, New York 11203-2098, USA.
(Possible interview candidates)

The in vitro activities of ABT 773, telithromycin (HMR 3647), azithromycin, clarithromycin, erythromycin, and levofloxacin were tested against 20 strains of *Chlamydia pneumoniae*. (*Good, this is a comparative test between Hoechst's ketolide and Abbotts*) The MIC at which 90% of the isolates were inhibited and the minimal bactericidal concentration at which 90% of the isolates were killed by ABT 773 were 0.015 microg/ml (range, 0.008 to 0.015 microg/ml). ABT 773 was the most active antibiotic tested in this study. (*This is in vitro, what about comparative animal studies?*)
PMID: 10722526, UI: 20187185

4: Antimicrob Agents Chemother 2000 Feb;44(2):447-9
In vitro activity of ABT-773, a new ketolide, against recent clinical isolates of *Streptococcus pneumoniae*, *Haemophilus influenzae*, and *Moraxella catarrhalis*.
Brueggemann AB, Doern GV, Huynh HK, Wingert EM, Rhomberg PR
Medical Microbiology Division, Department of Pathology, University of Iowa
College of Medicine, Iowa City, Iowa 52242, USA.
(Also a possible interview candidate)

The in vitro activity of ABT-773 was evaluated against *Streptococcus pneumoniae*, *Haemophilus influenzae*, and *Moraxella catarrhalis* isolates. ABT-773 was the most active antimicrobial tested against *S. pneumoniae*. ABT-773 and azithromycin were equivalent in activity against *H. influenzae* and *M. catarrhalis* and more active than either clarithromycin or erythromycin. (*Again, good in vitro results for Abbott*)
PMID: 10639382, UI: 20107001

02831133 (THIS IS THE FULLTEXT)
Respiratory Tract Infections: Ketolides Comprise New Family of Antibiotics (Aventis' antibiotic Telithromycin shows in vitro activity against pathogens that lead to community-acquired respiratory tract infections, according to PROTEKT study) TB & Outbreaks Week, p N/A June 13, 2000

DOCUMENT TYPE: Newsletter (United States)
LANGUAGE: English RECORD TYPE: Fulltext
WORD COUNT: 641
ABSTRACT:

Preliminary data reported from PROTEKT (Prospective Resistant Organism Tracking for the Ketolide Telithromycin), a global study involving 66 laboratories, has found that telithromycin

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has demonstrated in vitro activity against pathogens that lead to community-acquired respiratory tract infections (RTIs) (*This study involves only the Aventis antibiotic, and is sponsored by Aventis*) Telithromycin is part of new family of antibiotics known as ketolides, being explored as RTIs grow increasingly resistant to commonly used antibiotics. Globally, RTIs kill more than 50 mil people yearly. PROTEKT is sponsored by Aventis Pharma. Ketek (telithromycin) was submitted by Aventis Pharmaceuticals to the US Food and Drug Administration (FDA) and the European Agency for the Evaluation of Medicinal Products for marketing approval earlier in 2000. Full text further discusses the PROTEKT study.

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D's Exhibit 823

From: Lynn C. Klotz [LynnKlotz@compuserve.com]
Sent: Friday, July 21, 2000 7:39 PM
To: Blewitt, Stephen
Subject: Moellering interview



Attached is the Moellering interview. I will do the Nelson one tomorrow.

--Lynn

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File:ketolides-moellering

Robert Moellering interview on colchicine-site binding agents

Robert C. Moellering, Jr., MD
Physician in Chief
Department of Medicine
Beth Israel Deaconess Medical Center, and
Professor Harvard Medical School
Tel: 617-632-7437
e-mail: rmoeller@caregroup.harvard.edu

Dr. Moellering is an expert on antimicrobial therapy. His major interests include the mechanism of action and mechanisms of resistance to antimicrobial agents. He is or has served as editor of three major antimicrobial and infectious disease journals.

He was the senior author of a recent article entitled "In-vitro Activity of the New Ketolide Antibiotic HMR 3647 Against Gram-positive Bacteria." (J Antimicrob Chemother 1998, Sep; 42(3): 297-301).

Interview

The interview summary below was typed from handwritten notes and memory shortly after the interview, and is therefore subject to error in details normal to this process. Some of the interview has been rearranged for clarity. The interviewers comments and questions are in *italics*, Dr. Moellering's comments in normal type. This interview summary should remain **confidential** within John Hancock, as I did not ask if they could be disseminated beyond Hancock and the interviewee has had no chance to comment and correct the summaries.

Before we get to ketolides, what other new classes of antibiotics show promise against resistant gram-positives?

The development pipeline opens and closes. In the last year and a half nothing new and different has entered the pipeline.

Let me review some of the recent ones to reach the market. These antibiotics are being developed as substitutes for use in vancomycin-resistant bacteria.

Synercid (Aventis) is an intravenous antibiotic which has just entered the market. It is not the greatest drug, but does have activity against vancomycin-resistant Staph. I doubt that it will reach sales per year of \$100 to \$150 million.

Zyvor or another antibiotic just on the market. It can be administered orally and intravenously. The problem with this antibiotic is that it is bacteriostatic (*doesn't kill bacteria, just prevents them from proliferating*) not bacteriocidal. You have to wait a long time to kill bacteria.

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Pharmacia has an oxazolidnone antibiotic, Zyvox is the brand name, which has good activity against gram-positive bacteria and is just on the market. There are at least five companies developing oxazolidnone antibiotics.

Daptinomycin is a complex lipopeptide antibiotic which Cubist acquired from Lilly. It is intravenously administered. It kills bacteria by damaging the membrane. *(Dr. Moellering brought up daptinomycin without any prompting from me, which indicates to me that it is at least on the radar screen of new promising agents.)*

Is it one of those peptides that creates pores in membranes so that the cellular constituents leak out?

No, it alters the transport of ions across the membrane.

Would daptinomycin be expensive to manufacture since it is a complex lipopeptide?

It is a modified natural product. *(So manufacturing cost may not be an issue.)*

Daptinomycin is a second line of defense when standard therapies don't work.

Lilly also has a vancomycin substitute which is administered intravenously. It is in limited Phase III clinical trials because of toxicity concerns since it has a very long half-life of 150 hours in the body.

Glycocycline derivatives are IV administered tetracycline derivatives. They are highly effective against gram-positive and gram-negative bacteria, but have intestinal toxicity when given orally.

All these antibiotics I have mentioned have been known for three or four years, so they don't represent new promising agents just entering the pipeline.

One antibiotic, Zyrcin, has just been abandoned in clinical trials. It had both efficacy and toxicity problems.

What about ketolides?

The Aventis antibiotic, Ketek, has just been approved in Europe. It has not yet been approved in the US yet. *(According to Abbott, an NDA for Ketek has been filed in the US.)*

Abbott's ketolide has more promise than Aventis'. I am talking relative here. Ketolides have pluses and minuses because they are modified macrolide antibiotics. For example, erythromycin is a macrolide. All macrolides cause a degree of G.I. toxicity when given orally. Also bacteria have many resistance mechanisms against macrolides.

To circumvent resistance is the reason ketolides were developed. The two major resistance mechanisms are (1) an efflux mechanism that pumps macrolides out of the bacterium, and (2)

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methylation of an adenine at the ribosomal binding site for the antibiotic which prevents the antibiotic from binding. *(A major mechanism of a number of antibiotics is binding selectively to bacterial ribosomes to prevent translation of messenger RNA into protein.)* There are also a number of minor resistance mechanisms to macrolides. The existence of several resistance mechanisms makes it easier for non-resistant bacteria to develop resistance.

Ketolides are modifications of macrolides that avoid the major resistance mechanisms. First, a ketone group is attached to the "active" site on the macrolide which allows the antibiotic to avoid efflux (doesn't induce the efflux mechanism). It had been thought that the active site couldn't be modified and activity retained. It was surprising to find that macrolides could be modified with a ketone at the active site and still retain activity. Second, other macrolide modifications in ketolides make them bind strongly to ribosomes, so the adenine methylation does not prevent binding necessary for activity.

One problem with ketolides is that they have a limited range of bacterial-species activity, which will probably limit their usefulness to respiratory infections.

In business terms, will that make their market insubstantial?

The respiratory infection market is very big; it includes sinusitis, bronchitis and pneumonia.

Aventis claims their ketolide will reach \$1 billion in sales. Do you think that is possible?

To attain a \$1 billion market, two things must happen. They must unseat erythromycin and they must out compete the new fluoroquinolones which are going after the same market. There is a scenario where ketolides may find significantly greater use than fluoroquinolones. Clinicians are familiar with macrolides and know that they are safe. They also know that they may develop resistance and have been living with that. They may wish to use fluoroquinolones sparingly to retard the development of resistance in them and use them primarily as a second line of defense.

Regarding Abbott's ketolide, I haven't seen the clinical trial data, but if they have better activity than erythromycin against *H. Influenzae*, that would give them a big market boost.

(Note: Abbott's Phase II data indicate a 92% effectiveness (overall eradication) against H. Influenzae. How does this compare to erythromycin?)

Is there an important issue we haven't discussed or important question I haven't asked?

No, I think we have pretty much covered it.

Additional questions for Abbott from what was learned from this interview:

Your Phase II clinical data indicates a 92% effectiveness (overall eradication) against *H. Influenzae*. How does this compare to erythromycin? If more effective than erythromycin, how do you see that affecting market size?

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Do you see a competitive threat from the new peptide antibiotics such as Daptinomycin?
To attain a \$1 billion market for a ketolide as Aventis predicts, one of the experts we interviewed thought that two things must happen. It must unseat erythromycin, and it must out compete the new fluoroquinolones which are going after the same market. Do you agree with that statement?
If so, how do you see it happening?

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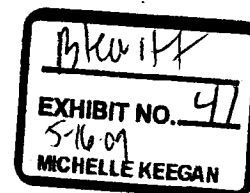
Blewitt 05/16/2007 Deposition Exhibit 41

D's Exhibit 824

From: Lynn C. Klotz [LynnKlotz@compuserve.com]
Sent: Friday, July 28, 2000 10:55 AM
To: Blewitt, Stephen
Subject: Abbott interview writeup

See attached. Overall, most questions were answered satisfactorily--certainly no indication of any deception on Abbott's part. Only one question needs following up, the patent question on ABT-594. Let's talk to see where we go from here, and to discuss the format of the final report.

-- Lynn



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File: interview-abbott

Telephone Interview with Abbott, Conducted by L. Klotz (consultant) and S. Blewitt.

Representing Abbott:

John Leonard, Vice President of Development
Phil _____, Corporate Licensing
Steve Cohen, Controller

[Steve, do you have full names and formal titles for the Abbott participants?]

Almost all answers were provided by John Leonard, as the other two Abbott participants were not scientists and this was a technically oriented interview. Interviewer questions and comments are in italics, Abbotts response in normal type.

ABT-773, ketolide antibiotic for bacteria resistant to antibiotics

To attain a \$1 billion market for a ketolide antibiotic as Aventis predicts (and you also predict), one of the experts we interviewed thought that two things must happen. It must unseat erythromycin, and it must out compete the new fluoroquinolones which are going after the same market. Do you agree with that assessment? If so, how do you see the marketing develop for ABT-773?

Erythromycin was unseated a decade ago, the erythromycin derivative zitromax has \$600 to \$700 US sales and over \$1 billion worldwide. It has 15% market share [*of the derivative market?*].

[He mentioned a few other big sellers, from which it might be concluded that there is a very big total market in which Abbott could achieve a significant market share.]

Fluoroquinolones in the past were used for urinary tract infections, but their marketers are trying to move into the respiratory infection market.

Ketolides are related to macrolides, for which several resistance mechanisms exist. Do you expect resistance to develop rapidly from some of the minor macrolide resistance mechanisms, even though ketolides have been designed to circumvent the major efflux and ribosomal methylation mechanisms?

In the US, efflux is the major mechanism of resistance. I believe in Japan the ribosomal mechanism may be important too. ABT-773 was originally designed and synthesized to avoid efflux. It has demonstrated efficacy on normally antibiotic resistant cells. We are about to enter Phase III trials.

One expert stated that ketolides have a limited range of bacterial-species activity, which will

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probably limit their usefulness to respiratory infections. While respiratory infections (sinusitis, bronchitis and pneumonia) are a very large market, do your market estimates include other large markets? If so, why do you think ABT-773 can serve those other markets?

ABT-773 was designed first and foremost for respiratory indications.

Your Phase II clinical data indicates a 92% effectiveness (overall eradication) against H. Influenzae. How does this compare to erythromycin? If this indicates that ABT-773 is more effective than erythromycin against H. Influenzae, how do you see that affecting market size? Can you break down the increase in market for us.

Very early on we specifically designed our clinical trials to look at *H. Influenzae*, "which sets the bar" for these antibiotics. ABT-773 is as good or maybe better, but the study was small.

Do you see a competitive threat from the new peptide antibiotics such as Daptinomycin?

They are low on our radar screen, because they are IV administered. ABT-773 is for ambulatory patients, who have a cough, a stuffy nose. The IV administered antibiotics are for hospital use. We are developing an IV form of ABT-774, to compete in that market, but the market is small, and we haven't really talked too much about this.

ABT-594, cholinergic channel modulator for diabetic neuropathic pain

Experts in neuropathic pain point to pregabalin (Parke-Davis, Phase III trials) as being especially promising, because it works as well as gabapentin and is safe. How does ABT-924 stack up against pregabalin? Pregabalin will likely finish clinical trials and be approved (if it is approved) before ABT-924. Although measures have been developed, pain relief is subjective, so demonstrating to the FDA that ABT-594 is more efficacious than gabapentin may be difficult. Could the difficulty of providing convincing statistics prevent the approval of ABT-924?

We haven't compared the two drugs head-to-head, but from what we see in the pregablin literature, we believe our drug is good. I doubt that the FDA would use pregablin as a standard for approval. In the neuropathic pain area, there are no standards. The last drug was approved 40(?) years ago. We see no approval risk for ABT-594 from pregablin. Also ABT-594 works through a different mechanism. There is a great need for drugs in the neuropathic pain area.

From your descriptive memorandum, ABT-594 appears to have a therapeutic window of only two to three. Is this small therapeutic window acceptable? Has the FDA approved neuropathic pain relievers with such a low therapeutic window?

Aspirin has a therapeutic window of only ten. For ABT-594, maybe we will be able to get a theoretical window greater than five. When we give patients the upper-limit dose, the side effects aren't dangerous: headache, vomiting. These minor side effects appear to go away over time.

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A Merck study claims that in rats "ABT-594 did not cause rotarod impairment at antinociceptive doses but did cause hypothermia and life-threatening adverse effects including seizures." This study also says its results suggest "ABT-594 has nicotine-like dependence liability.... These findings indicate that the acute safety profile of ABT-594 is not significantly improved over other nicotinic analgesics." Also, Novartis finds in rats that "ABT-594 dose-dependently increased tail flick latencies but only at doses that also disrupted performance in the rotarod test" Novartis also claims "In all tests, (+)-epibatidine was significantly more potent than ABT-594." According to Abbott, ABT-594 is as efficacious as (+)-epibatidine, which is too toxic for use. How do you explain the differences between your findings in rodents and humans and the Merck and Novartis findings in rodents?

Someone called my attention to the Merck study, I don't think I've seen the Novartis one. However, in clinical studies I would trade five million rats for a hundred people.

Why are Merck and Novartis taking "pot shots" at you?

I think Merck and Novartis are using us as a standard. We are the only drug to compare with. Merck bought Sybia, the company which has rights to many of the receptors like the one we are targeting.

Is ABT-594 clear of the Sybia's patents?

ABT-594 was prior to the Sybia/Merck arrangement. Future products must avoid Sybia's rights.

[Note: this did not actually answer whether Abbott has an invention prior to Sybia, or if Sybia's patents may cover the receptor for Abbott's drug. We should clarify this.]

In an Abbott year 2000 study in rats, ABT-627 (the advanced prostate cancer cytostatic and pain drug) was examined for diabetic neuropathy. How does the promise of ABT-627 compare to ABT-594 for neuropathic pain? Are the two drugs structurally related? Is Abbott heading toward clinical trials with ABT-627 for neuropathic pain?

Yes, we have looked at ABT-627 as an analgesic, it has limited value for pain, so we won't pursue it.

ABT-627 also might be used to treat cardiovascular disease. We don't serve that market, so we won't pursue that indication for business reasons.

ABT-980, alpha 1a adrenoceptor antagonist for BPH

In a Chinese literature study comparing selective (tamsulosin, Flomax) and non-selective (terazosin) alpha 1-adrenoceptor antagonists, tamsulosin showed better results in maximum urinary flow rate (Qmax), and average urinary flow rate (AFR). But the results, in our naive opinion, were not dramatically different. For example, AFR increased 37.5% for tamsulosin and

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25.8% for Flomax. I know these drugs sell well, but I am not sure why.

In our human trials we look at flow, and we look at symptoms. Treating the symptoms is important. For example does the bladder empty completely, is urgency to urinate reduced or eliminated.

We have completed Phase II, clinical trials and are about to enter Phase III. Our data so far, show that ABT-980 is virtually super imposable on Flomax, maybe we are slightly better in a few areas.

At what point does the FDA say, OK we have a number of products on the market which are not improvements over the previous ones, we won't approve the next one because patients don't need another similar product?

This is an incremental product, a lot of what our industry does is incremental products. So it becomes a marketing and pricing issue. The FDA doesn't make decisions based on the number of products already on the market. In Europe, where prices are controlled, if a product is a me-too product, it can enter the market but at a lower price.

One literature study refers to a patient population that is responsive to alpha1-adrenoceptor antagonists. Does this mean there is a subgroup of patients that don't respond to BPH drugs targeted to alpha1-adrenoceptor? How big is this subgroup?

I can't answer that; on one has carried out pharmacogenetic studies. The subgroup referred to could be those whose prostate is so big, nothing short of surgery will help them.

A-254751, tubulin colchicine-site binding drug to inhibit microtubule formation for advanced cancers

One expert said, of the number of colchicine-site binding agents in preclinical and in clinical trials, combretastatin-A4 (Oxigene, Phase I trails) stands out. He said it is receiving a lot of attention because it is also an antivascular agent. How does A-254751 stack up against combrestatin?

I don't know.

A strikingly large number of colchicine-site drugs have been abandoned in clinical trials. One expert claims the older colchicine-binding drugs failed before they are too toxic. More specifically, the older drugs failed for pharmacokinetic reasons: mainly too long half-lives in the body. He further stated: what one wants are colchicine-binding drugs that get into cells quickly, do their job, and are eliminated from the body quickly. Do you agree with this assessment? What are the pharmacokinetics of A-254751? How does the drug escape MDR?

I can't give you the pharmacokinetic data from memory.

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Could we look at it?

Yes, I can get it for you.

[Since A-254751 is in early stage clinical trials, the data may give us some insight about its prospects. But I am already rating this drug as only having a fair chance of FDA approval based on the fate of the other colchicine-site binding agents. I don't see that the data can change that opinion, so I withdrew the request to see it.]

We don't know how the drug escapes the MDR mechanism.

How does A-254751 compare to other colchicine-site binding agents regarding toxicity?

We think the window is pretty good compared to others.

Cytostatic drugs (except for ABT-627, the endothelin ET-1 antagonist)

One literature review indicated that approximately thirty angiostatic agents are undergoing clinical trials, with another fifty agents in preclinical testing. This is a crowded field. While Abbott's approaches are clearly competitive, how can Abbott achieve a large market share given the large number of competitors in the cytostatic area in general?

I agree that for cytostatic drugs in general their may be 50 to 200 in testing. To get the market lead, get one that works. In this business, there are a number of people who start things, many more than the ones who finish.

One expert tells us that so far the FDA has not wavered from the strict position of improved survival as the criterion for cancer drug approval. This would include longer survival and improved quality of life. They have not yet approved any drug for slower disease progression. Since cytostatic therapies don't kill tumor cells, the use of time to progression of disease seems to be the necessary clinical trials measure. What are the problems with this measure? Do you think the difficulty of measuring time to progression, lack of statistically significant evidence of longer survival, and difficulty in determining improved quality-of-life will prolong clinical trials or cause some drugs to fail to get FDA approval? How serious an issue is this?

You set this question up too starkly. Clearly drugs that make people to live longer, as long as they maintain a quality of life, are likely to be approved. With ABT-627, we are working with the FDA to determine what is a meaningful clinical progression. We are working with the FDA every step of the way.

For any of your cytostatic drugs, have you any data for cost utility = (long-term-cost)/(quality-life-years-saved)? In particular, if there are side-effects, quality-life-years saved may be much less than simply life-years-saved, and cost-utility may be high.

We haven't done cost-utility precisely, but we compare favorably with other products—for

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example, ABT-627 compares favorably with Luprolide, a chemical castration drug with sales of \$800 million. Also, Luprolide is very expensive.

In this regard, metalloproteinase inhibitors are particularly worrisome. One of our experts stated that the metalloproteinase inhibitor BB-94 has "underwhelming" efficacy. It is toxic and causes joint problems. Additionally, one literature study finds that the metalloproteinase inhibitor Marimastat had no survival advantage when compared to chemotherapy with gemcitabine in advanced pancreatic cancer, and Abbott states that Marimastat has dose-limiting joint side-effects. To play devil's advocate, you could argue: Why should the FDA approve a drug that does not prolong a patient's life and at the same time inflicts pain? Could failure for approval of Marimastat make the approval barriers higher for follow-on drugs? What evidence do you have that gelatinase inhibitors like ABT-518 might not have the same FDA approval concerns?

British Biotech was first with Marimastat, so it has the problems of being first. One thing Abbott has learned from Marimastat is that it is not selective enough. Abbott's metalloproteinase inhibitor avoids blocking a particular enzyme that is needed to keep joints clear. Abbott's drug does not create what we call "frozen shoulder." There is a good animal model that we use for frozen shoulder.

ABT-627, the endothelin ET-1 antagonist

Abbott's internal memorandum describes ABT-627 as a potent vasoconstrictor. Abbott indicated in its internal memorandum that the mechanism of action in prostate cancer wasn't yet known. Additionally, one of our experts said that reducing blood supply to tumor cells was likely not the mechanism by which ABT-627 delays prostate cancer progression, since the cancer metastasize to bone and is slow growing both indicating there is less need for a good blood supply. What are your latest thoughts about mechanism of action? A competitor who has a better knowledge of mechanism may be in good position to develop a superior drug.

Yes, we agree that the mechanism of action for metastacized prostate cancer is not vasoconstriction. We do have knowledge about mechanism for prostate cancer.

[The interview ended here because Steve Cohen had an important meeting to attend. There was little need for additional questions on ABT-627 as well.]

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Blewitt 05/16/2007 Deposition Exhibit 43

D's Exhibit D_GH

 **Abbott Laboratories**
Global Pharmaceutical R&D

Thomas J. Lyons
Controller

Abbott Laboratories
D-404, Building AP9
100 Abbott Park Road
Abbott Park, IL 60064-6120

RECEIVED
BOND & CORPORATE FINANCE DEPT.

DEC 2 2002

Referred to



December 20, 2002

Mr. Steve Blewitt
John Hancock Life Insurance Company
200 Clarendon Street, T-57
Boston, MA 02117
Attention: Bond & Corporate Finance Group
Fax (617) 572-1628

Re: Research Funding Agreement dated as of March 13, 2001
(a) 2002 Program Status Report and Related Cost Summary
(b) 2003 Preliminary Annual Research Plan

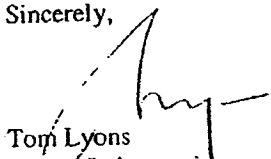
Dear Steve,

In accordance with section 2.5 of our agreement, enclosed are (a) the 2002 Program Status Report with Related Program Costs and (b) the 2003 Preliminary Annual Research Plan for the program compounds. Please note that for 2002 both the YTD and total year LBE costs exceed the minimums as per the agreement. As such, we'd appreciate receiving payment of the 2nd installment of \$54 million no later than January 19th, 2003.

The \$2MM management fee should be wired to you early next week (week of December 23rd), if not sooner. Please let me know if you have any questions.

I hope you have an enjoyable holiday season.

Sincerely,


Tom Lyons
Abbott Laboratories
Global Pharmaceutical R&D
Controller

TJL/jlb

Cc: M. Johannesen

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Abbott Stationery

ABT-773 Tablet/IV

As a result of FDA concerns with safety requirements of the Anti-Infective Therapeutic Class, the FDA made clear to us its expectation regarding additional clinical work required to complete the development of ABT-773. Due to the magnitude and duration of the additional investment required, a decision was made 7/02 to seek a licensing partner in the U.S. and Europe and to not independently advance the compound in these markets. We are currently in late stage negotiations with a partner and have been also working with John Hancock to that extent.

ABT-492

A Phase I QTc study was completed in October and a Phase IIA study in treating community-acquired pneumonia began in March. The Phase IIA study in Acute Exacerbation of Chronic Bronchitis (AECB) initiated in November 2001 is ongoing. Enrollment for both Phase II studies will be completed by February 2003 with results anticipated by the end of the second quarter 2003.

At this time, no further clinical trials are planned for ABT-492 and all current CMC activities have been brought to a close. Options for the future of the drug will be evaluated based on the results of the existing Phase II clinical trials. No safety issues have been identified in the existing Phase I study data, and the ongoing Phase II studies remain blinded.

ABT-724

Currently there is one Phase I study ongoing with 32 patients enrolled. An extension of this study is expected to begin in December of 2002 and continue into 2003. In addition, 2002 completed studies include both pre-clinical toxicology and metabolism studies. Due to overall funding constraints as well as strategic priorities, no new studies/work are currently funded in 2003 for ABT-724. If additional funding does become available, ABT-724 will be considered.

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**John Hancock Development Portfolio
Annual Progress Report (November 2002)**

ABT-627

Key 2002 landmarks in the development of atrasentan include:

Two worldwide pivotal phase III trials in metastatic and nonmetastatic hormone refractory prostate cancer are on going. Enrollment was completed in 3Q02 for the clinical trial in men with metastatic disease. Enrollment in the trial for men with non-metastatic disease is scheduled to complete at the end of 2002.

A phase II study of atrasentan in early prostate cancer (biochemical relapse following radical prostatectomy) is underway

A pilot study of atrasentan in combination with Zometa (Zoledronate) is underway as a prelude to a randomized phase II trial

Exploratory phase II trials in non-prostate cancer have begun in glioma and study initiations will occur in 4Q02 for renal cell and non-small cell lung cancer. ABT-627 is still on track for a Q4 2004 approval.

ABT-510

Currently there are no ongoing Phase II studies. By the end of the year, five Phase II studies will have been initiated, including studies of renal, lung, and breast cancer, lymphoma and sarcoma. These were postponed 3 months due to delay in bulk drug supply. The 2003 plan includes the continuation of these studies.

ABT-751

Currently, two Phase I studies are ongoing with a total of 45 enrolled patients, twelve of which are active. In addition, three Phase II trials in renal, colorectal, and lung cancers have been initiated, as well as collaborative studies in pediatric cancers and adult leukemia with six patients enrolled. The 2003 Plan includes the initiation of a fourth Phase II trial in breast cancer.

ABT-100

Due to neurotoxicity indicated in animal studies, decision was made to terminate this program in Q2.

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Abbott / John Hancock Funding Collaboration
2002 Y/E Estimate for JH Development Portfolio
 (\$MM)

Compounds	2002 Actuals October YTD	November LBE	December LBE	2002 LBE Projected Y/E	2002 Plan JH Submission	Variance Fav/(Unfav)	Comments
ABT -773 Ketide Oral & IV	18.3	0.7	0.7	19.7	78.3	59.6	See progress report.
ABT -627 Endothelin	41.4	4.5	4.5	50.4	52.9	2.5	Program terminated in 2001.
ABT -594 Neuro Pain	1.4	-	-	1.4	-	(1.4)	Studies postponed 3 mths. due to bulk drug supply delay.
ABT -510 TSP	10.3	0.9	0.9	12.1	26.3	14.2	
ABT -492 Quinolone Tablet	25.0	2.8	2.8	30.6	42.4	11.8	See progress report.
ABT -518 MMPI	-	-	-	-	-	-	Program terminated in 2001.
ABT -751 Anit-Mollic	7.8	1.0	1.0	9.8	15.8	5.8	Aggressive plan spend. No change in timeline.
ABT -100 FTI	2.4	-	-	2.4	6.6	4.2	Program terminated in 2002.
ABT -724 Dopamine Receptor Agonist	4.9	0.3	0.3	5.5	5.9	0.4	
Total	111.6	10.2	10.2	132.0	229.0	97.0	

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John Hancock Portfolio Summary
R&D Costs and Development Timeline
2003 Plan

Compounds	2001 Actuals	2002 LBE	2003 PLAN	Total Cumulative	Comments
ABT -773 Ketelide Oral & IV	80.9	19.7	1.7	102.3	Outlicensing being pursued.
ABT -627 Endothelin	34.1	50.4	71.2	155.7	Program progressing on timeline.
ABT -594 Neuro Pain	7.8	1.4	-	9.2	Program terminated in 2001.
ABT -510 TSP	8.8	12.1	18.3	39.2	Bulk drug supply delays in 2002 postponed studies 3 months.
ABT -492 Quinolone Tablet	23.1	30.6	7.2	60.9	No new studies to begin at this time.
ABT -518 MMPI	3.7	-	-	3.7	Program terminated in 2001.
ABT -751 Anti-Miotic	6.5	9.8	10.7	27.0	Program tracking.
ABT -100 FTI	3.6	2.4	-	6.0	Program terminated in 2002.
ABT -724 Dopamine Receptor Agonist	3.2	5.5	0.1	8.8	Program on additional funding request list for 2003.
Management Fee and Milestone Payment	-	(10.0)	(2.0)	(12.0)	
Total	171.7	142.0	111.2	424.9	
Current Year Projected Funding Ratio					
	3.4	2.6	2.2		
Current Year Target Funding Ratio					
	2.0	2.0	2.0		
Projected Aggregate Funding Ratio					
	3.4	3.0	2.6		
Target Aggregate Funding Ratio					
	2.8	2.9	2.9		

Timeline (Launch Dates):

	2002 Plan	2003 Plan
ABT -773 Ketelide Oral & IV	3 Q 2004	TBD
ABT -627 Endothelin	4 Q 2004	4 Q 2004
ABT -594 Neuro Pain	N/A	N/A
ABT -510 TSP	1 Q 2006	4 Q 2006
ABT -492 Quinolone Tablet	4 Q 2006	TBD
ABT -518 MMPI	N/A	N/A
ABT -751 Anti-Miotic	1 Q 2006	1 Q 2006
ABT -100 FTI	4 Q 2007	N/A
ABT -724 Dopamine Receptor Agonist	3 Q 2008	TBD

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ABT-773 Ketolide				2003 Plan (000s)	
Total Patients		Enrolled	Start	End	
External:					
CMC					\$10
PARO					\$10
Total External					
Internal					FTE (\$000s)
Clinical Program					1.7 \$370
Global Project Mgmt					0.1 \$11
Phase I Center Support					0.4 \$82
Data Management/Statistics					
Chemistry, Manufacturing and Controls					1.0 \$269
Formulation (PARO)					1.4 \$367
Analytics for Formulation (PARO)					0.7 \$185
Analytics for Process Chemistry (PARO)					0.4 \$89
Clinical Packaging (PARO)					0.5 \$151
Process R&D					
Drug Safety Support					0.2 \$54
Other					
Other Support Cost					0.2 \$58
Research Quality Assurance					0.2 \$57
Other					
Total Internal					6.8 \$1,693
Total Program:					\$1,703

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ABT-627 (intravitreal)				2003 Plan (000s)	
External:	Total Patients	Enrolled	Start	End	
New Clinical Activities:					
Japanese Bridging Study	200		1/1/04	3/1/05	\$560
Phase II trial #1	50	0	9/1/03	10/1/04	\$3,334
Phase II trial #2	50		9/1/03	10/1/04	\$3,334
					\$7,228
Subtotal New Clinical Activities:					
Ongoing Clinical Activities:					
M00-211 Phase III (WW Metastatic Prostate Cancer)	1000		5/1/01	2/1/04	\$11,112
M00-244 Phase II (WW nonmetastatic Prostate Cancer)	1000		8/1/01	3/1/01	\$12,168
M00-258 Phase III (Ext for M00-244/M00-211)	1400		7/1/01	2/1/05	\$3,872
M01-304 Phase II Long Term Safety	250		10/15/01	3/1/05	\$872
Phase II - Bisphosphonate Combination	200		12/31/02	12/31/04	\$1,738
M01-366 Phase II Early Prostate Cancer	200	0	11/1/02	1/1/05	\$2,266
Japan Phase I Pharmacokinetic Study-ALL TUMORS	48			1/1/03	\$1,200
Marketing - Outcomes Study	0				\$160
					\$33,018
Subtotal Ongoing Clinical Activities:					
CMC					\$1,844
PARD					\$80
Process R&D					\$104
Pre-Clinical Safety Support					
Pre-Clinical Safety Support					\$2,443
Other Support Cost					\$44,887
Other					
Total External					\$71,203
FTE (\$000s)					
Internal:					
Clinical Program	41.4				\$8,664
Global Project Mgmt	2.3				\$484
Phase I Center Support	4.1				\$864
European Clinical Organization	28.5				\$4,576
Data Management/Statistics					
Chemistry, Manufacturing and Controls	5.5				\$1,491
Formulation (PARD)	7.2				\$1,952
Analytics for Formulation (PARD)	3.5				\$853
Analytics for Process Chemistry (PARD)	3.4				\$915
Clinical Packaging (PARD)	5.0				\$2,233
Process R&D					
Drug Safety Support	1.8				\$488
Toxicology/Pathology	4.7				\$1,276
Metabolism	0.3				\$107
Other					
Other Support Cost	0.5				\$138
Discovery (Therapeutic Discovery)					\$175
Medical Services	3.2				\$874
Research Quality Assurance	1.5				\$166
Medical Affairs					\$846
Regulatory Affairs					\$592
Other	11.7				\$26,516
Total Internal					\$71,203
Total Program:					\$71,203

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ABT-492 Outralone					2003 Plant 006s	
External:		Total Patients	Enrolled	Start	End	
Ongoing Clinical Activities:						
Phase IIA - M01-344 CAP		300	296	3/18/02	2/6/03	\$1,800
						\$1,800
Subtotal Ongoing Clinical Activities:						
Other Support Cost						\$725
Other						\$2,825
				Total External		
Internal:						FTE (\$000s)
Clinical Program						
Global Project Mgmt					9.3	\$2,021
Phase I Center Support					0.5	\$101
Data Management/Statistics					2.7	\$488
Chemistry, Manufacturing and Controls						
Formulation (PARD)					0.8	\$174
Analytics for Formulation(PARD)					0.3	\$74
Analytics for Process Chemistry (PARD)					0.1	\$37
Clinical Packaging(PARD)					0.3	\$73
Process R&D					0.7	\$199
Drug Safety Support						
Toxicology/Pathology					0.1	\$27
Metabolism					1.9	\$505
Other Support Cost						
Discovery (Therapeutic Discovery)					2.0	\$552
Medical Services						\$10
Research Quality Assurance					0.9	\$228
Medical Affairs					0.2	\$25
Regulatory Affairs						\$72
Other					0.5	\$59
				Total Internal	20.3	\$4,641
				Total Program:		\$7,166

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ABT-751 (Eisai Anti-Mitotic)					2003 Plan (\$000s)	
External:		Total Patients	Enrolled	Start	End	
Ongoing Clinical Activities:						
M02-447 Phase II (Breast)		40		10/1/02	10/1/03	\$857
M02-448 Phase II (Lung Cancer)		30		11/1/02	11/1/03	\$375
M02-449 Phase II (Colorectal Cancer)		30		12/1/02	12/1/03	\$624
M02-416 Phase II (Renal Cancer)		60		11/1/02	11/1/03	\$388
Subtotal Ongoing Clinical Activities:						\$2,244
CMC						\$15
PARD						\$130
Process R&D						\$2,389
Total External						
Internal						
Clinical Program						CPE (\$000s)
Global Project Mgmt						6.4 \$2,276
Phase I Center Support						1.1 \$228
European Clinical Organization						0.4 \$54
Data Management/Statistics						4.5 \$838
Chemistry, Manufacturing and Controls						
Formulation (PARD)						3.1 \$841
Analytics for Formulation (PARD)						3.5 \$848
Analytics for Process Chemistry (PARD)						1.8 \$478
Clinical Packaging (PARD)						0.8 \$217
Process R&D						2.2 \$1,163
Drug Safety Support						
Toxicology/Pathology						0.2 \$49
Metabolism						2.1 \$573
Other						0.2 \$54
Other Support Cost						
Discovery (Therapeutic Discovery)						0.5 \$149
Medical Services						1.0 \$274
Research Quality Assurance						0.1 \$17
Medical Affairs						0.5 \$76
Other						
Total Internal						28.4 \$8,282
Total Program:						\$10,871

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ABT-724 (Dopamine 4 Agonist)

<u>Internal</u>	ETE (\$000s)
Clinical Program	\$75
Global Project Mgmt	\$75
Total Internal	\$75
Total Program:	\$75

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Blewitt 05/16/2007 Deposition Exhibit 44

D's Exhibit 671

 **Abbott Laboratories**
Global Pharmaceutical R&D

Thomas J. Lyons
Controller

Abbott Laboratories
D-R404, Building AP9
100 Abbott Park Road
Abbott Park, IL 60064-6120

RECEIVED
BOND & CORPORATE FINANCE DEPT.

DEC 26 2001

Referred to _____



December 18, 2001

Mr. Steve Blewitt
John Hancock Life Insurance Company
200 Clarendon Street, T-57
Boston, MA 02117
Attention: Bond & Corporate Finance Group
Fax 617-572-1628

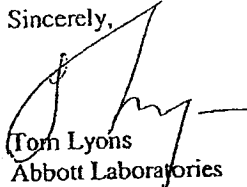
Re: Research Funding Agreement dated as of March 13, 2001
2001 Program Status Report and Related Cost Summary

Dear Steve,

In accordance with section 2.5 of our agreement, enclosed is the 2001 Program Status Report and Related Program Costs for the program compounds. Please note that both the YTD and total year LBE costs exceed the minimums as per the agreement. As such, we'd appreciate receiving payment of the 1st installment of \$50 million no later than January 17th, 2002.

I hope you have an enjoyable holiday season.

Sincerely,


Tom Lyons
Abbott Laboratories
Global Pharmaceutical R&D
Controller

TJL/jlb

cc: Daphne Pals

encl.

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JH 001065

John Hancock Status report

**John Hancock Development Portfolio
Annual Progress Report**

ABT-773 Tablet/IV

The US, Canadian and European New Drug Application (NDA) is planned for August 2003, with an NDA in Japan shortly thereafter. Six Phase III clinical studies were initiated in November 2000 and have been actively enrolling in 2001. Study results will be available by the 3rd quarter of 2002. All required drug interaction and special population studies are on track for completion 2002 and 2003.

In Japan, Phase I dose ranging and food effect studies were completed during the 1st quarter of 2001. Based on the BID dose decision for Community Acquired Pneumonia (CAP) and Acute Bacterial Sinusitis (ABS), a Phase II open label CAP study was initiated in Japan in December 2001 to complete by May 2002. The strategy for the Japan NDA is to conduct a Phase III bridging study in CAP to bridge US/European data with the Japanese data.

With respect to the IV formulation, an initial Phase I single rising dose study is scheduled for Q1 2002 to evaluate dose levels, concentration and rates of infusion. Based on the results of this study, further Phase I studies will be conducted in 2002. Phase III studies for the IV formulation are planned to initiate in the 1st quarter of 2003 with an NDA planned for the 4th quarter of 2004.

Given study results recently received, initiation and continuation of further studies for ABT-773 Tablet/IV is currently under review.

ABT-627

ABT-627 is still on track to launch in the 4th quarter of 2004. During the course of the past year, ABT-627 has:

- Received fast track and rolling NDA status from the FDA.
- Presented positive phase II efficacy results at both the American Society of Clinical Oncologists (ASCO) and the American Urological Association (AUA).
- Implemented 2 worldwide pivotal phase III trials in metastatic and non-metastatic hormone refractory prostate cancer.
- Initiated clinical work in non-prostate cancers: renal cell, glioma, ovarian, breast, pancreas, lung and colorectal.

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ABT-510

An Investigational New Drug (IND) application was filed with the FDA for clinical trials in the United States on August 24, 2001. Currently, two Phase I clinical trials have been initiated with 18 patients enrolled. The 2002 plan includes the initiation of multiple Phase II trials in various cancers, as well as collaborative studies in pediatric cancers and non-cancer indications.

ABT-492

An Investigational New Drug (IND) application was submitted to the FDA on June 22, 2001. As well as the filing of the NDA, the Phase I "super protocol" study was completed in March and a Phase IIA study in Acute Exacerbation of Chronic Bronchitis (AECB) began in November. 2002 Plans include the initiation of a Phase IIB program with the following objectives:

- Confirm a dosing strategy with a desired safety/tolerability profile while achieving efficacy goals in RTI indications.
- Establish activity in uncomplicated UTI.
- Provide both a dosing selection and proof of principle.

ABT-751

An Investigational New Drug (IND) application was filed with the FDA for clinical trials in the United States on April 23, 2001. Currently, 2 Phase I clinical trials have been initiated with 6 patients enrolled. The 2002 Plan includes the initiation of multiple Phase II trials in various cancers, as well as collaborative studies in pediatric cancers and adult leukemia.

ABT-100

Current activity is focused both on the preparation of drug substance, necessary to complete the toxicology studies, and the development of a protocol for the first-in-human study. The first-in-human study is expected to initiate in August 2002.

ABT-724

ABT-724 was presented and approved as a Drug Development Candidate (DDC) in July 2001. Work has since commenced on the manufacture of the bulk active pharmaceutical ingredient to support process chemistry analysis, as well as to provide material for initial toxicology studies and formulation development. In addition, work has been completed on pre-clinical pharmacokinetics that allows for predicting dose ranges for the first-in-human study. The 2002 Plan includes conducting both pre-clinical toxicology and metabolism studies, as well as initiating the first-in-human study scheduled for the 3rd quarter.

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Abbott / John Hancock Funding Collaboration
2001 Y/E Estimate for JH Development Portfolio
(\$MM)

Compounds	2001 Actuals October YTD	November LBE	December LBE	2001 LBE Projected Y/E	2001 Plan JH Submission	Variance Fav/(Unfav)	Comments
ABT-773 Ketolide Oral & IV	65.4	8.9	8.9	63.2	91.5	8.3	Program Delays
ABT-627 Endothelin	26.2	5.5	5.5	37.3	38.0	0.7	
ABT-594 Neuro Pain	6.8	1.0	1.0	8.9	35.0	26.1	Program Terminated
ABT-510 TSP	7.3	1.5	1.6	10.6	9.0	(1.6)	
ABT-492 Quinolone Tablet	19.9	2.9	2.9	25.6	25.0	(0.6)	
ABT-516 MMPI	3.4	0.4	0.4	4.3	7.0	2.7	Program Terminated
ABT-751 Anti-Mitotic	5.0	1.3	1.3	7.7	10.0	2.3	
ABT-100 FTI	8.0	0.9	0.9	9.8	6.0	(3.8)	
ABT-724 Dopamine Receptor Agonist	8.4	0.7	0.7	7.8	6.0	(1.8)	
Total	148.5	23.3	23.3	185.2	227.5	32.3	

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